ANDY SILAS
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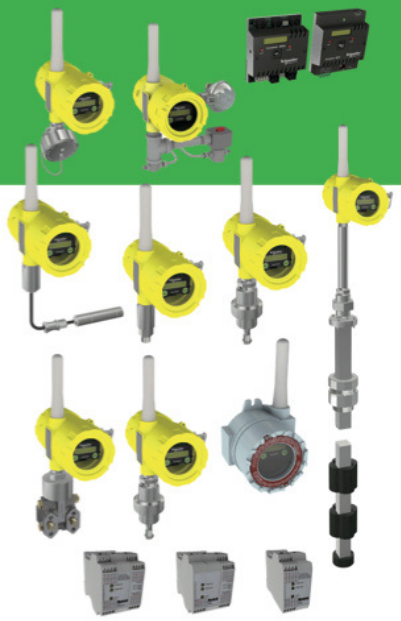
Self-Powered Wireless Instrumentation

Accutech Wireless Instrumentation



Process knowledge is valuable

With a wide range of available instruments for temperature, pressure, flow, level, and more, Accutech™ instrumentation is suited to many industrial applications, including upstream Oil & Gas and remote plant applications in Water and Wastewater.

Accutech field instruments are easy to install being self-contained with power, radio, and sensor. The high-performance, license-free radio and longlasting battery reduce support costs while delivering your valuable data.

se.com

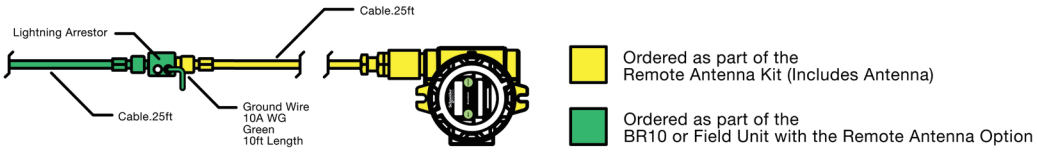
Life Is On | Schneider Electric

Accessories

Support Products

Part Numbers - Accessories

Part Number	Description
Software and Configuration Tools	
TBUM350048	Accutech Manager – Configuration and Diagnostics Software (included with each Accutech H/W order)
TBUM297569	USB to RS-485 Converter – Interface Cable for PC (USB port) to Base Radio or output module
Power Supply & Batteries	
TBUM297529	120/240 Vac to 24 Vdc Power Supply, 15 W, DIN rail mount
TBUM297853	120/240 Vac to 24 Vdc Power Supply, 15 W, Wall socket plug-in type
TBUM297530	Field Unit Replacement Battery Kit, 1 C-cell Battery (complete with integrated connector)
TBUM297533	Field Unit Replacement Battery, 1 C-cell Battery (clip version with no connector)
TBUM297881	Field Unit Replacement Battery Kit, 1 D-cell Battery (for 2.4 GHz field units)
TBUM297531	Field Unit Replacement Battery Kit, 2 D-cell Batteries – Intrinsically Safe version
TBUM297532	Field Unit Replacement Battery Kit, 4 D-cell Batteries – Intrinsically Safe version
TBUM297869	Field Unit Replacement Battery Kit, 2 D-cell Batteries – General Purpose version
TBUM297870	Field Unit Replacement Battery Kit, 4 D-cell Batteries – General Purpose version
900 MHz Antenna Kits for BR10 and Field Units – not all Field Units support external antennas	
TBUM297534	Omni 900 MHz, 6 dbd base antenna, includes mounting bracket, 10 ft. (3 m) cable, and lightning arrestor (N-Female)
TBUM297535	Omni 900 MHz, 6 dbd base antenna, includes mounting bracket, 25 ft. (7.6 m) cable, and lightning arrestor (N-Female)
TBUM297536	Omni 900 MHz, 6 dbd base antenna for indoor use only, includes bracket
TBUM297537	Yagi 900 MHz, 6 dbd remote antenna, includes mounting bracket, 10 ft. (3 m) cable, and lightning arrestor (N-Female)
TBUM297538	Yagi 900 MHz, 6 dbd remote antenna, includes mounting bracket, 25 ft. (7.6 m) cable, and lightning arrestor (N-Female)
TBUM297539	Yagi 900 MHz, 6 dbd remote antenna for indoor use only, includes bracket



Short Haul Antenna Options (RPSMA) for use with BR20	
TBUM297521	Cabinet mount 900 MHz Antenna, 0 dBd, 3 ft. (0.9 m) cable, Reverse Polarity SMA connector, Rated -22 °C (-4 °F)
TBUM297522	LMR200-3RP, cable from RPSMA antenna connector to surge suppressor (NF), 3 ft. (0.9 m), RPSMA to N-Male

Accessories

Support Products

Part Numbers - Accutech Accessories cont'd

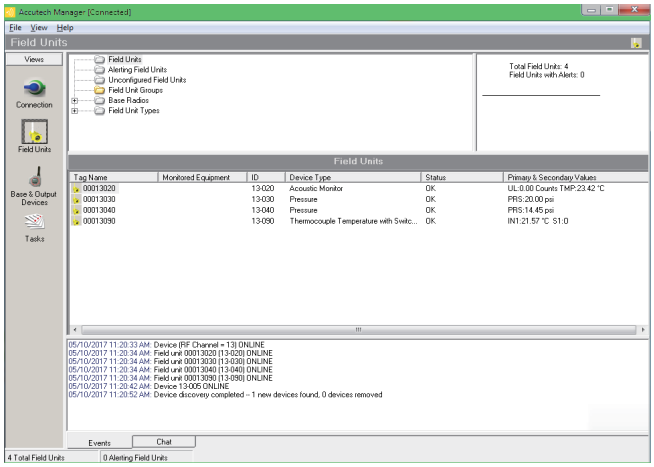
Part Number	Description
2.4 GHz Antenna options for BR10/20 and Field Units – not all Field Units support external antennas	
TBUM297883	Omni 2.4 GHz, 10 dbi, includes mounting bracket, N-Female connector
TBUM297885	Yagi 2.4 GHz, 10 dbi, includes mounting bracket, N-Female connector
TBUM297884	Yagi 2.4 GHz, 15 dbi, includes mounting bracket, N-Female connector
TBUM297878	10 ft. (3 m) LMR 400 feedline, RP-TNC Female to N-Male, (5) ty-wraps
TBUM297879	25 ft. (7.6 m) LMR 400 feedline, RP-TNC Female to N-Male, (5) ty-wraps
TBUM297855	Surge suppressor, bulkhead mount, N-Female connector on both sides, 2 GHz to 6 GHz
Brackets	
TBUM297540	2 in. Mounting Bracket, (wall or pipe) for Differential Pressure Field Unit
TBUM297541	2 in. Pipe Yoke for Field Units, Base Radios and remote antennas
TBUM297542	5 in. Universal Straight Bracket for Acoustic Field Unit
TBUM297543	5 in. Universal Angle Bracket for Acoustic Field Unit
TBUM297544	7 in. Universal Straight Bracket for Acoustic Field Unit
TBUM297545	7 in. Universal Angle Bracket for Acoustic Field Unit
TBUM297546	7 in. Universal Twist Bracket for Acoustic Field Unit
Network Devices	
TBUM297547	RS-485 To RS-232 Converter, DIN Rail Mount
TBUM297548	RS-485 To RS-232 Converter, Base Radio Output, Cable Mount
TBUM297549	RS-485 Modbus™ to TCP/IP Converter
TBUM297550	RS-485 to RS-485 Isolator, DIN rail mount
Replacement Floats for SS Float Level Sensor	
TBUM297865	Water Interface Float for 0.5 in. resolution, S.S. sensor, 0.90 specific gravity
TBUM297874	Water Interface Float for 0.25 in. resolution, S.S. sensor, 0.90 specific gravity
TBUM297875	Product Float for 0.5 in. resolution, S.S. sensor, 0.60 specific gravity
TBUM297876	Product Float for 0.25 in. resolution, S.S. sensor, 0.60 specific gravity
Miscellaneous	
TBUM297552	Stainless Steel Tag

Accutech Manager

Configuration, Diagnostics & Network Management Software

Description

Taking advantage of its client/server architecture model, Accutech Manager may be installed onto single PCs for technicians, mulitple PCs for multiple services management consoles and on corporate LAN servers for round-the-clock operation.



Configuration Management

Enhanced Configuration Management features provide tools to locally or remotely configure field unit parameters, and enable over-the-air firmware upgrades, right from the management software. The following parameters are accessible for configuration:

- Individual Field Unit Properties (sampling)
- Normal Conditions
- Out of Spec Conditions
- Thresholds
- Custom Messages

The following views are available:

Field Unit Groups

- Individual Field Units View
- Tag Number
- Monitored Equipment
- ID
- Device Type
- Status

Field Unit (Alarm) Status View

- OK
- Alarm1, Alarm2, etc.
- RF Interruption
- Low Battery

Base Radio View

- Tag Name
- Serial Number
- RS-485 Address
- # of Field Units
- Status

Performance Management

Accutech Manager serves up field unit and base radio performance data in an easy-to-use interface that incorporates a real time data plot with other pertinent device information such as status, event logs and counters and statistics.

Reporting and Analysis

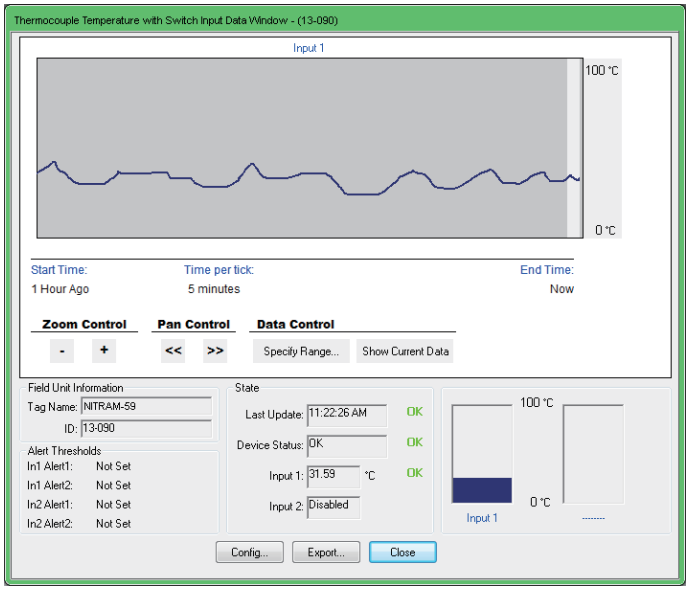
The database stores and maintains field unit monitoring and measurement data over time which can be exported in Text (.txt) and Comma-Separated Variable (.csv) formats to many popular software programs, such as Oracle®, SQL, and Excel® in order to perform analysis and to create reports.

Accutech Manager

Configuration, Diagnostics & Network Management Software

System Requirements

- PC with 300 Megahertz (MHz) or higher processor clock speed recommended; Intel Pentium® / Celeron® Family, or AMD K6/Athlon®/Duron Family, or compatible processor recommended.
- Microsoft® Windows® 2000 or Windows® XP operating system
- 256 Megabytes RAM or higher recommended
- 30 Megabytes available hard disk space, 10 Gigabytes if the database is installed on the local PC



Part Number	Description
TBUM350048	Accutech Manager, configuration and diagnostics software

Accutech Field Unit

Common Specifications

Features	
Local Configuration Interface	• Integrated LCD with membrane-switch buttons • Display input reading and error messages, if applicable • Configure sampling and RF parameters locally using membrane-switch buttons
Remote Configuration Interface	Accutech Manager, Windows®-based GUI software, providing network-wide monitoring and performance-management features and field unit configuration capabilities
Network Capacity	• Max. 100 field units per base radio • Max. 256 base radios per network
Self-Diagnostics	• Low battery notification – indicates the need to replace the battery (approximately one month advance notification) • Contains software and hardware that continuously monitors operation. Any sensor or device parameter that is out of specification is identified and reported
RF Characteristics	900 MHz: • 902...928 MHz Frequency Hopping Spread Spectrum (FHSS), FCC certified ISM license-free band • 915...928 MHz (Australia) • Data Rates: 19.2 kbps, and 76.8 kbps • Typical Electrical Transmit Power: 0.4 W maximum 2.4 GHz: • 2400...2483.5 MHz license-free band Frequency Hopping Spread Spectrum (FHSS) Radio • Data Rates: 50/100 kbps (FSK Modulation) • Typical Electrical Transmit Power: +10.6 dBm • Typical Receive Sensitivity (0.1 % BER): - 102 dBm @ 50 kbps • Typical CW Receiver Blocking Rejection: 64 dB for CW @ +/- 5 MHz, 74 dB for CW @ +/- 30 MHz
Operating Shock and Vibration	Tested per IEC 60068-2-6 (vibration) and IEC 60068-2-27 (shock)
Random Vibration Characteristics	Tested to withstand 6 G, 15 minutes per axis from 9...500 Hz
Electromagnetic Compatibility	Operates within specification in fields from 80...1,000 MHz with field strengths to 30 V/m. Meets IEC 61000-6-2 General Immunity Standard and IEC 6100-6-4 compatibility emissions standard
Output Resolution	24-bit analog-to-digital conversion

Accutech AI10 & AV10

Wireless Multi-Input Field Unit

Specifications - AI10 & AV10

General

Sensor Type	Multi-Input
Location	Field Unit
Frequency Range	900 MHz and 2.4 GHz license-free bands

Functional

Multi-Input	
Inputs	• 2: 4...20 mA inputs sharing a common ground and two discrete contact closure inputs (AI10) • 2: 0...10 Vdc inputs sharing a common ground and two discrete contact closure inputs (AV10)
Input Characteristics	• 10 Ω impedance, analog (AI) • 100 kΩ impedance, analog (AV)
Accuracy	± 0.1% of Full-scale reading at reference conditions
Operating Ambient Environment	• -40...+85 °C (-40...+185 °F) electronics • -40...+85 °C (-40...+185 °F) display (below -20 °C LCD visibility is reduced) • Humidity: 0...95%, non-condensing
Materials of Construction	• Fittings: 316L Stainless Steel • Epoxy-coated Aluminum enclosure
Power	• Self-contained power with integrated battery • 1: D-cell Lithium Thionyl battery • Battery life up to ten years of service, depending on configuration
Certifications	North America HAZLOC: • cCSAus • Intrinsically Safe: Exia IIC; AEx ia IIC • Class I, Div. 1, Groups A, B, C & D, T4 • Class II, Div. 1, Groups E, F and G, T3 • Class III, T3 • Class 1, Zone 0, AEx ia IIC, T3 • Class I, Div. 2, Groups A, B, C & D, T4 • Class II, Div. 2, Groups F and G, T4 • Class III, T4 Explosion Proof: • Class I, Div. 1, Groups A, B, C & D; T4 • Class I, Div. 2, Groups A, B, C & D; T4 ATEX/IECEx HAZLOC: • LCIE • Intrinsically Safe • Ex ia IIC T3 EMC & Radio: • North America : FCC , IC • Europe : CE Mark (R&TTE) • Australia : C - Tick

Accutech AI10 & AV10

Wireless Multi-Input Field Unit

Model Code - AI10

TBUAAITJ1N00A represents a typical part number.

Model	Type
TBUAAI	Two: 4...20 mA & two: contact-closure wireless inputs

Code	Select: RF Module Type
T	902...928 MHz band (FCC / IC)
D	915...928 MHz band (Australia)
F	2.4 GHz band

Code	Select: Certifications
A	Explosion-Proof Protection – Div 1 CSA - see certification details on previous page
J	Intrinsically-Safe Protection – Div 1 CSA - see certification details on previous page
Q	Intrinsically-Safe Protection – Div 1 ATEX & IECEx - see certification details on previous page

Code	Select: Housing & Battery Pack
1	NEMA 4X Housing with 1 D-cell
2	NEMA 4X Aluminum Housing with 2 D-cells (not available for ATEX/IECEx)
4	NEMA 4X Aluminum Housing with 4 D-cells (not available for ATEX/IECEx)

Code	Select: Future Option
N	None

Code	Select: Antenna
00	Integral Antenna (2.4 GHz unit comes default with integral antenna and external antenna connector)
04	External Antenna connector (900 MHz only, antenna and cables purchased separately)

Code	Select: Junction Box
A	No Junction Box (exposed lead wires)
B	NEMA 4 - Aluminum Rear-Entry
D	NEMA 4X - Stainless Steel Rear-Entry

Accutech AI10 & AV10

Wireless Multi-Input Field Unit

Model Code - AV10

TBUAAVTJ1N00A represents a typical part number.

Model	Type
TBUAAV	Two: 0...10 Vdc & two: contact-closure wireless inputs

Code	Select: RF Module Type
T	902...928 MHz band (FCC / IC)
D	915...928 MHz band (Australia)
F	2.4 GHz band

Code	Select: Certifications
A	Explosion-Proof Protection – Div 1 CSA - see certification details on previous page
J	Intrinsically-Safe Protection – Div 1 CSA - see certification details on previous page
Q	Intrinsically-Safe Protection – Div 1 ATEX & IECEx - see certification details on previous page

Code	Select: Housing & Battery Pack
1	NEMA 4X Housing with 1 cell
2	NEMA 4X Aluminum Housing with 2 cells (not available for ATEX/IECex)
4	NEMA 4X Aluminum Housing with 2 cells (not available for ATEX/IECex)

Code	Select: Future Option
N	None

Code	Select: Antenna
00	Integral Antenna (2.4 GHz unit comes default with integral antenna and external antenna connector)
04	External Antenna connector (900 MHz only, antenna and cables purchased separately)

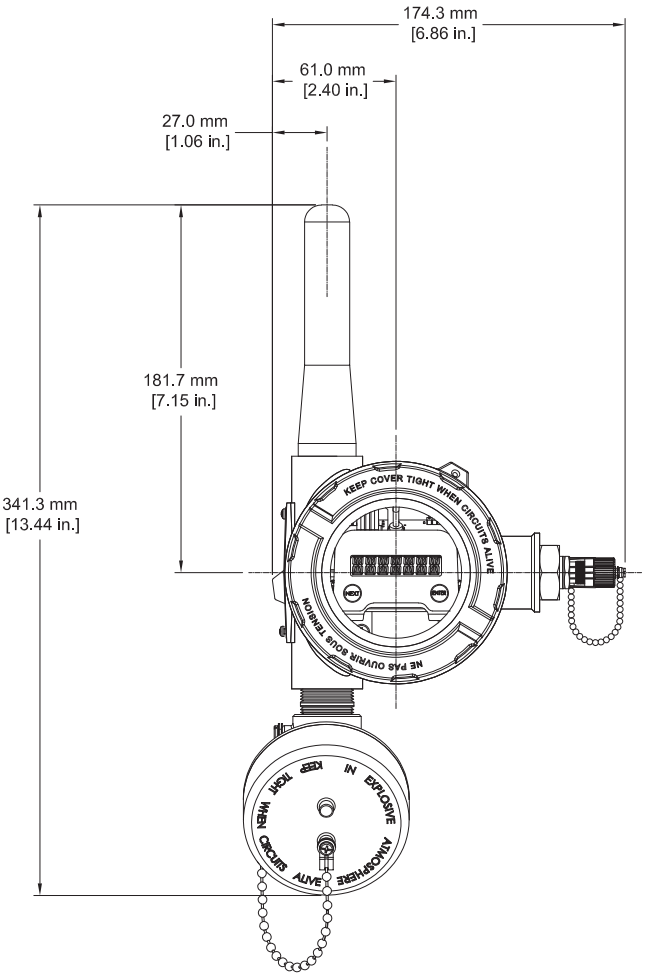
Code	Select: Junction Box
A	No Junction Box (exposed lead wires)
B	NEMA 4 - Aluminum Rear-Entry
D	NEMA 4X - Stainless Steel Rear-Entry

Accutech AI10 & AV10

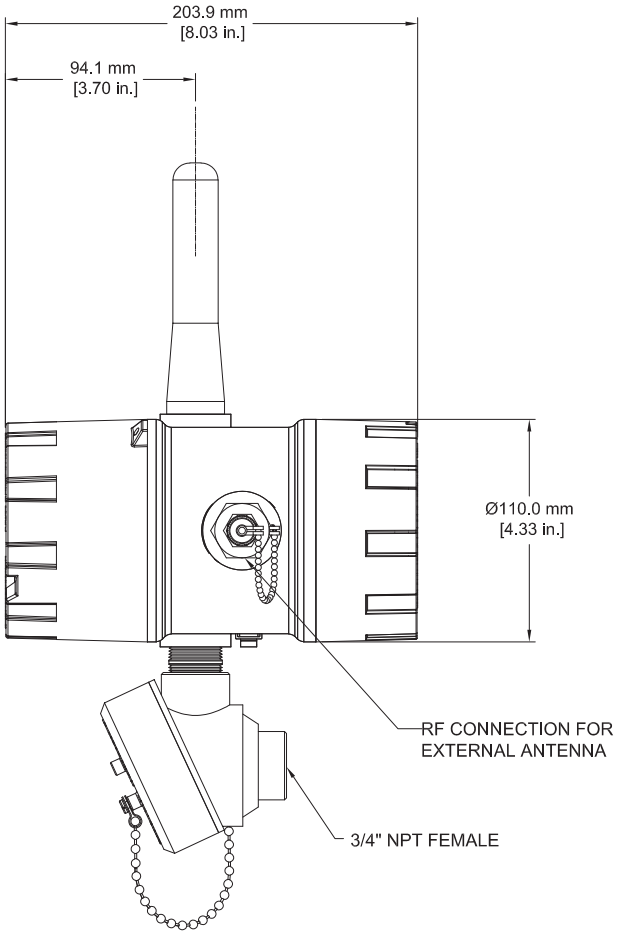
Wireless Multi-Input Field Unit

Dimensions - AI10 & AV10

FRONT VIEW



SIDE VIEW



Note: This product is RoHS-compliant.

Accutech AP10

Wireless Absolute Pressure Field Unit

Specifications - **AP10**

General

Sensor Type	Absolute Pressure
Location	Field Unit
Frequency Range	900 MHz and 2.4 GHz license-free bands

Functional

Pressure Sensor	
Absolute Pressure Ranges	30 PSIA and 250 PSIA (2 BAR and 17 BAR)
Accuracy	• ± 0.25% of full-scale at 20 °C (68 °F) • ± 0.5% of sensor URL including combined effects of linearity, hysteresis, repeatability, and temperature. Addition of seals will reduce accuracy due to thermal effects of fill fluid.
Stability	Combined zero and span stability: less than ± 0.1% of sensor URL per year at 21 °C (70 °F)

Operating Ambient Environment	• -40...+121 °C (-40...+250 °F), process temperature, steady-state • -40...+110 °C (-40...+230 °F) ambient temperature sensor • -40...+85 °C (-40...+185 °F) electronics • -40...+85 °C (-40...+185 °F) display (below -20 °C LCD visibility reduced) • Humidity: 0...95%, non-condensing
Materials of Construction	• Fittings: 316L Stainless Steel • Epoxy-coated Aluminum enclosure
Power	• Self-contained power with integrated battery • 1: D-cell Lithium Thionyl battery • Battery life up to ten years of service, depending on configuration
Certifications	North America HAZLOC: • cCSAus • Intrinsically Safe: Exia IIC; AEx ia IIC • Class I, Div. 1, Groups A, B, C & D, T3 • Class II, Div. 1, Groups E, F and G, T3 • Class III, T3 • Class 1, Zone 0, AEx ia IIC, T3 • Class I, Div. 2, Groups A, B, C & D, T4 • Class II, Div. 2, Groups F and G, T4 • Class III, T4 ATEX/IECEx HAZLOC: • LCIE • Intrinsically Safe: Ex ia IIC T3 EMC & Radio: • North America : FCC , IC • Europe : CE Mark (R&TTE) • Australia : C - Tick

Accutech AP10

Wireless Absolute Pressure Field Unit

Model Code - AP10

Features

Local Configuration Interface	• Integrated LCD with membrane-switch buttons • Display provides pressure reading and error messages, if applicable • Configure sampling and RF parameters locally using membrane-switch buttons
Remote Configuration Interface	Accutech Manager, Windows®-based GUI software, providing network-wide monitoring and performance-management features and field unit configuration capabilities
Network Capacity	• Max. 100 field units per base radio • Max. 256 base radios per network
Self-Diagnostics	• Low battery notification – indicates the need to replace the battery (approximately one month advance notification) • Contains software and hardware that continuously monitors operation. Any sensor or device parameter that is out of specification is identified and reported
RF Characteristics	900 MHz: • 902...928 MHz Frequency Hopping Spread Spectrum (FHSS), FCC certified ISM license-free band • 915...928 MHz (Australia) • Data Rates: 19.2 kbps, and 76.8 kbps • Typical Electrical Transmit Power: 0.4 W maximum 2.4 GHz: • 2400...2483.5 MHz license-free band Frequency Hopping Spread Spectrum (FHSS) Radio • Data Rates: 50/100 kbps (FSK Modulation) • Typical Electrical Transmit Power: +10.6 dBm • Typical Receive Sensitivity (0.1% BER): - 102 dBm @ 50 kbps, - 99 dBm @ 100 kbps • Typical CW Receiver Blocking Rejection: 64 dB for CW @ +/- 5 MHz, 74 dB for CW @ +/- 30 MHz
Operating Shock and Vibration	Tested per IEC 60068-2-6 (vibration) and IEC 60068-2-27 (shock)
Random Vibration Characteristics	Tested to withstand 6 G, 15 minutes per axis from 9...500 Hz
Electromagnetic Compatibility	Operates within specification in fields from 80...1,000 MHz with field strengths to 30 V/m. Meets IEC 61000-6-2 General Immunity Standard and IEC 6100-6-4 compatibility emissions standard
Output Resolution	24-bit analog-to-digital conversion

Accutech AP10

Wireless Absolute Pressure Field Unit

Model Code - AP10 (cont'd)

TBUAAPTJ1N00S030A represents a typical part number.

Model	Type
TBUAAP	Wireless Absolute Pressure Field Unit

Code	Select: RF Module Type
T	902...928 MHz band (FCC / IC)
D	915...928 MHz band (Australia)
F	2.4 GHz band

Code	Select: Certifications
	Intrinsically Safe Protection
J	CSA - see certification details on previous page
Q	ATEX & IECEx - see certification details on previous page

Code	Select: Housing & Battery Pack
1	NEMA 4X Housing with 1 D-cell

Code	Select: Future Option
N	None

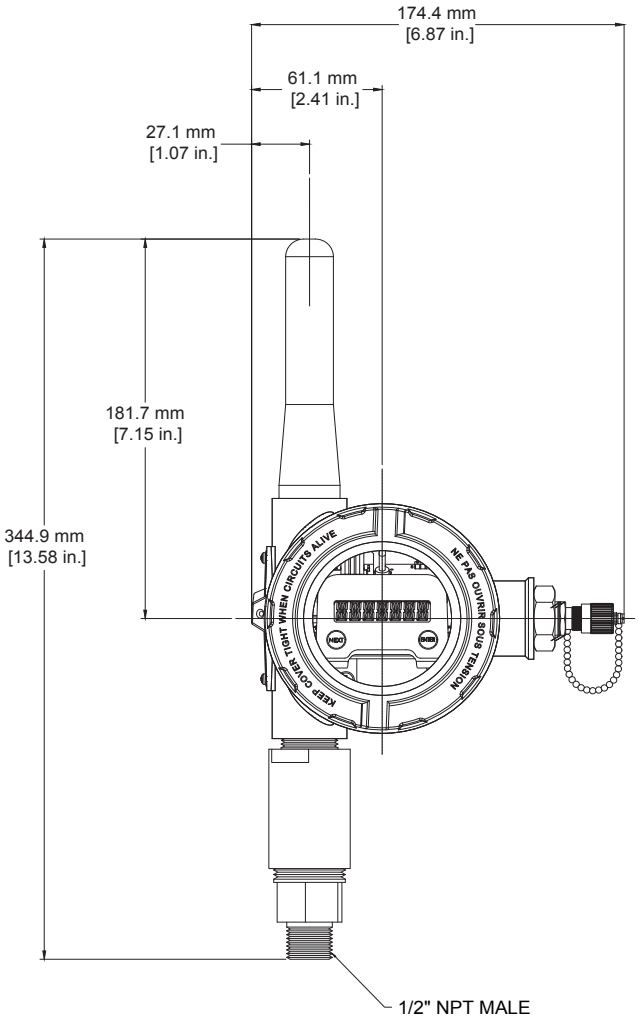
Code	Select: Antenna
00	Integral Antenna (2.4 GHz unit comes default with integral antenna and external antenna connector)
04	External Antenna connector (900 MHz only, antenna and cables purchased separately)

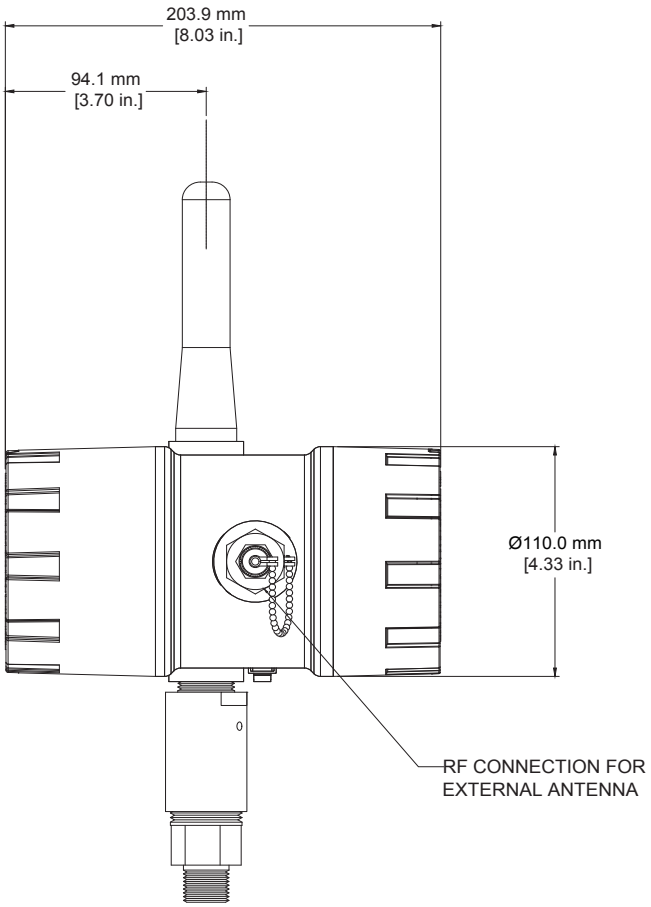
Code	Select: Sensor Mounting
S	Integral
R	Remote Sensor mounting with 10 ft. (3.05 m) cable

Accutech AP10

Wireless Absolute Pressure Field Unit

Dimensions - AP10





Note: This product is RoHS-compliant.

Accutech BR10

Wireless Base Radio

Specifications - BR10

General

Device	Base Radio
Location	Interfaced with controller or PC
Frequency Range	900 MHz and 2.4 GHz license-free bands

Features

Output Options	• RS-485 digital communications with conversion to RS-232 or USB for interface with PC or server and Accutech Manager. • Serial Modbus RTU (Binary) over RS-485 • Modbus over TCP/IP (via optional converter)
Operating Ambient Environment	-40...+85 °C (-40...+185 °F) rated for industrial use
Materials of Construction	Epoxy-painted aluminum
Power	10...30 Vdc
Certifications	North America HAZLOC: • cCSAus • Explosion Proof (only with integral NEMA 4X antenna cover): • Class I, Div. 1, Groups A, B, C & D, T4 • Class I, Div. 2, Groups A, B, C, & D, T4 EMC & Radio: • North America: FCC, IC • Australia: C-Tick
Local Configuration Interface	Integrated LCD with membrane-switch buttons
Remote Configuration Interface	Accutech Manager, Windows®-based GUI software, providing network-wide monitoring and performance-management features and field unit configuration capabilities
Network Capacity	• Max. 100 field units per base radio • Max. 256 base radios per network
RF Characteristics	900 MHz: • 902...928 MHz Frequency Hopping Spread Spectrum (FHSS), FCC certified ISM license-free band • 915...928 MHz (Australia) • Data Rates: 19.2 kbps, and 76.8 kbps • Typical Electrical Transmit Power: 0.4 W maximum 2.4 GHz: • 2400...2483.5 MHz license-free band Frequency Hopping Spread Spectrum (FHSS) Radio • Data Rates: 50/100 kbps (FSK Modulation) • Typical Electrical Transmit Power: +10.6 dBm • Typical Receive Sensitivity (0.1 % BER): - 102 dBm @ 50 kbps, - 99 dBm @ 100 kbps • Typical CW Receiver Blocking Rejection: 64 dB for CW @ +/- 5 MHz, 74 dB for CW @ +/- 30 MHz
Operating Shock and Vibration	Tested per IEC 60068-2-6 (vibration) and IEC 60068-2-27 (shock)
Electromagnetic Compatibility	Operates within specification in fields from 80 to 1,000MHz with field strengths to 30V/m. Meets IEC 61000-6-2 General Immunity Standard

Accutech BR10

Wireless Base Radio

Model Code - BR10

TBUABR10-TX21N00 represents a typical part number.

Model	Type
TBUABR10	Wireless Base Radio

Code	Select: RF Module Type
T	902...928 MHz band (FCC / IC)
D	915...928 MHz band (Australia)
F	2.4 GHz band

Code	Select: Certifications
X	CSA: Explosion Proof - see certification details on previous page, for Integral Antenna BR10 only
G	General Purpose - Non-Hazardous locations only, required for remote antenna configurations

Code	Select: Housing
2	NEMA 4X Aluminum Housing

Code	Select: Protocol
1	Modbus and Streaming output for Accutech Manager and output modules

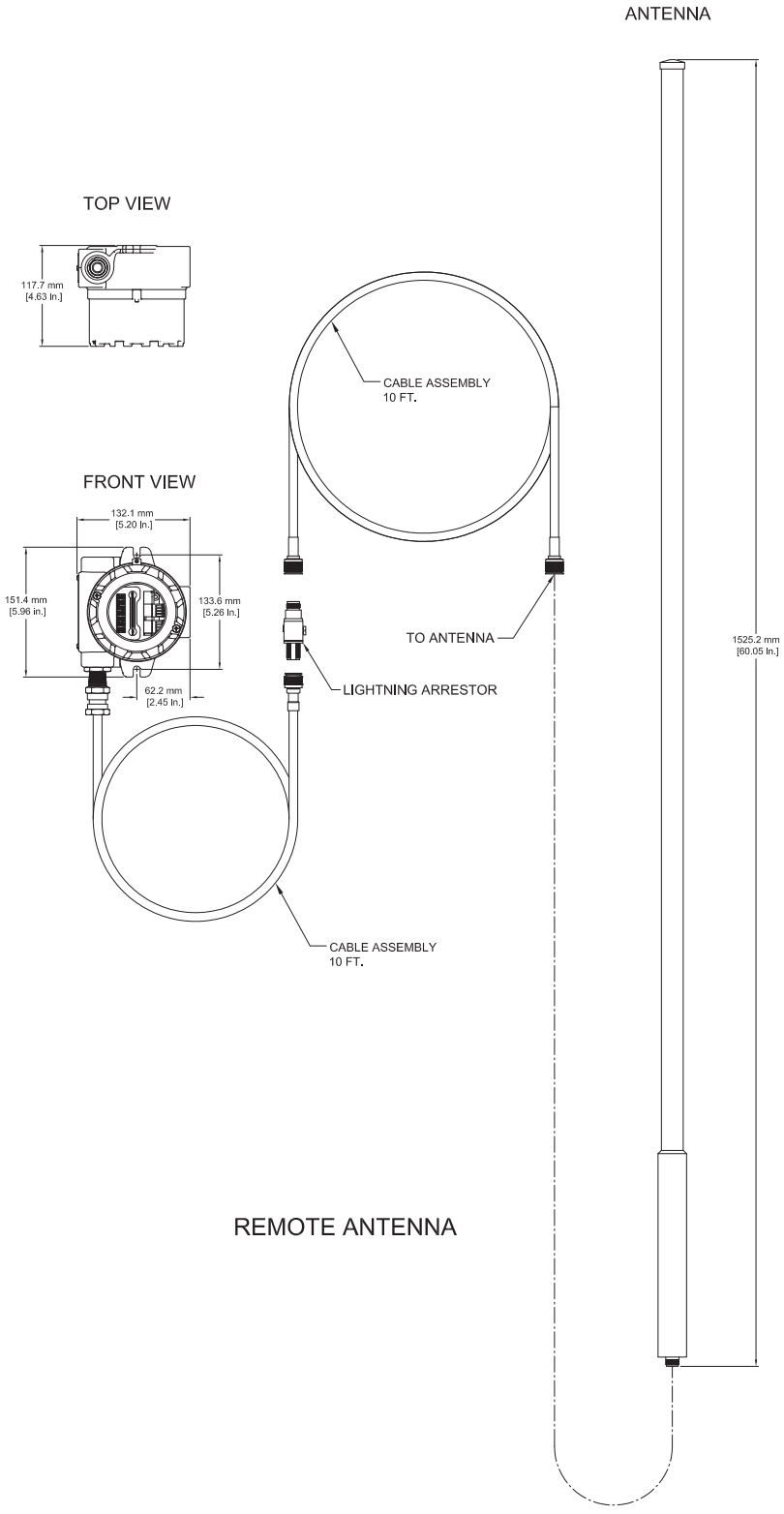
Code	Future Option
N	None

Code	Select: Integral Antenna or Cable & Connector Interface
00	Integral Antenna with NEMA 4X Antenna Cover (meets Xproof Div 1/ Div 2)
10	10 ft. (3.05 m) cable with N-Male connector for remote antenna configurations (non-hazardous locations only)
25	25 ft. (7.62 m) cable with N-Male connector for remote antenna configurations (non-hazardous locations only

Accutech BR10

Wireless Base Radio

Dimensions - BR10

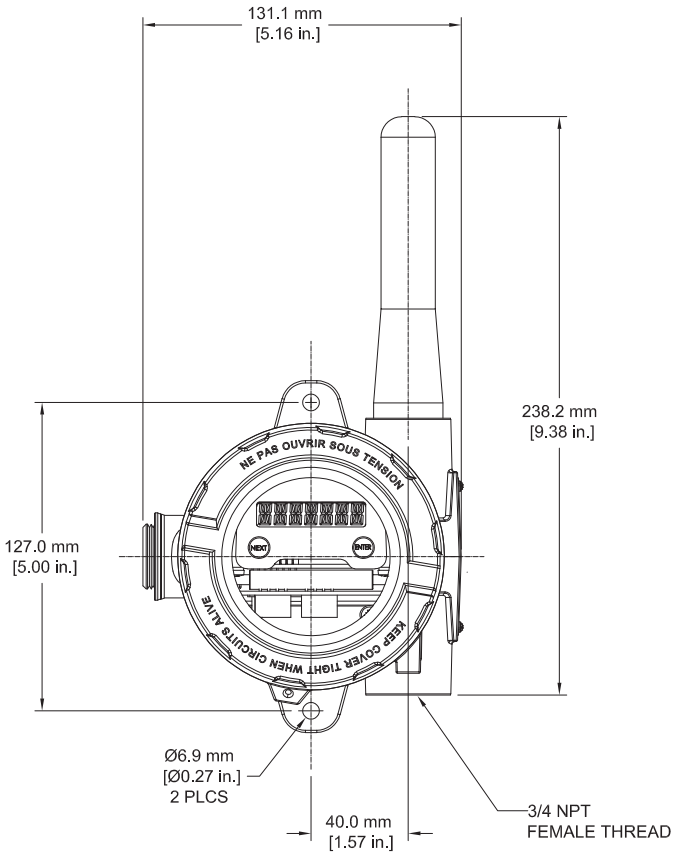


Accutech BR10

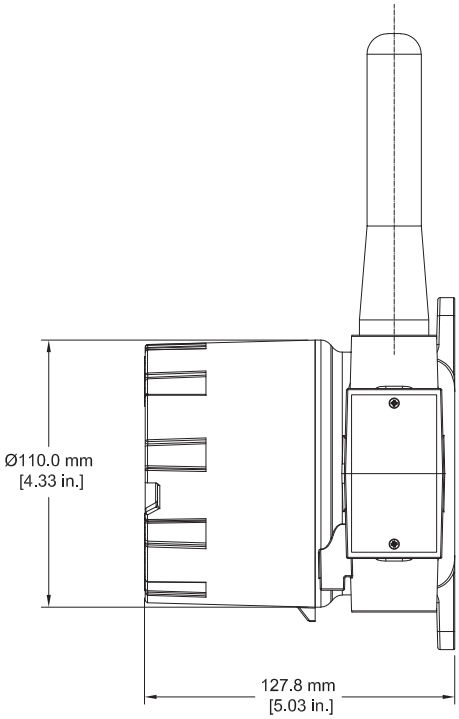
Wireless Base Radio

Dimensions - BR10 (cont'd)

FRONT VIEW



SIDE VIEW



Note: This product is RoHS-compliant.

Accutech BR20 | BR21

DIN Rail Mounted Base Radios

Specifications - BR20 | BR21

Features

Configuration Interface	
Local	LCD and Keypad
Remote	Accutech Manager, Windows®-based GUI software, providing network-wide monitoring and performance-management features and field unit configuration capabilities
RF Characteristics	900 MHz • 902...928 MHz Frequency Hopping Spread Spectrum (FHSS); FCC certified ISM license-free band • 915...928 MHz (Australia) • Data Rates: BR20: 19,200 or 76,800 bps, BR21: 76,800 bps 2.4 GHz • 2400...2483.5 MHz ISM license-free band Frequency Hopping Spread Spectrum (FHSS) Radio • Typical Electrical Transmit Power: +10.6 dBm • Typical Receive Sensitivity (0.1% BER): - 102 dBm @ 50 kbps, - 99 dBm @ 100 kbps • Typical CW Receiver Blocking Rejection: 64 dB for CW @ +/- 5 MHz, 74 dB for CW @ +/- 30 MHz • Data Rates: 50 and 100 kbps (FSK Modulation)
Output Options	BR20 • **Accutech Base Radio Data**: Modbus RTU protocol via Short Haul serial RS-232/RS-485 port • **Accutech Configuration and Diagnostics**: Accutech Manager via serial RS-232/RS-485 port. • **Trio Radio Data**: Modbus RTU protocol via two serial RS-232/RS-485 Long Haul Data Ports • **Trio Configuration and Diagnostics**: TVIEW+™ via serial RS-232/RS-485 Long Haul Data Port BR21 • **Accutech Base Radio Data**: Modbus/TCP protocol via Ethernet port. Supports 16 simultaneous Modbus/TCP connections • **Configuration and Diagnostics**: Accutech Manager via serial RS-232 or RS-485 port

Connections	
Modbus Data	BR20 • 1, **Accutech Base Radio Short Haul Data Port**: RS-232/RS-485 serial: 5-wire (RS-232: GND, RxD, TxD or RS-485: Rx/Tx+, Rx/Tx-), 8-pin RJ45 modular connector. DIP switch-selectable for RS-485 termination resistors and either RS-232 or RS-485 serial port mode. • 1, **Trio K-Series Long Haul Data Port A**: RS-232/RS-485 serial: 7-wire (RS-232: DTR, DCD, GND, RxD, TxD, RTS, CTS or RS-485: Rx/Tx+, Rx/Tx-), 8-pin RJ45 modular connector. DIP switch-selectable for RS-485 termination resistors and either RS-232 or RS-485 serial port mode. • 1, **Trio K-Series Long Haul Data Port B**: RS-232/RS-485 serial: 7-wire (RS-232: DTR, DCD, GND, RxD, TxD, RTS, CTS or RS-485: Rx/Tx+, Rx/Tx-), 8-pin RJ45 modular connector. DIP switch-selectable for RS-485 termination resistors and either RS-232 or RS-485 serial port mode BR21 • 1, **Ethernet Modbus Port**: 10/100 BASE-T LAN Ethernet port, 8-pin RJ45 modular connector, Modbus/TCP protocol
Configuration and Diagnostics	BR20 Accutech Manager: • 1, **Accutech Base Radio Short Haul DIAG Port**: RS-232/RS-485 serial: 3-wire (RS-232: GND, RxD, TxD or RS-485: Rx/Tx+, Rx/Tx-), 8-pin RJ45 modular connector. DIP switch-selectable for RS-485 termination resistors and either RS-232 or RS-485 serial port mode Trio TVIEW+: • 1, **Trio K-Series Long Haul DIAG Port**: RS-232/RS-485 serial: 3-wire (RS-232: GND, RxD, TxD or RS-485: Rx/Tx+, Rx/Tx-), 8-pin RJ45 modular connector. DIP switch-selectable for RS-485 termination resistors and either RS-232 or RS-485 serial port mode BR21 Accutech Manager: • 1, **Accutech Base Radio Serial Port**: RS-232: 3-wire (GND, RxD, TxD), 8-pin RJ45 connector • 1, **Accutech Base Radio Serial Port**: RS-485: 3-wire (GND, A+, B-) screw terminal connections DIP switch-selectable for RS-485 termination resistors and either RS-232 or RS-485 serial port mode.
Antenna Connector	RPSMA

Accutech BR20 | BR21

DIN Rail Mounted Base Radios

Specifications - BR20 | BR21 cont'd

General

Input Voltage	11...30 Vdc, 30 Vdc maximum
Input Current	30 mA maximun (at 13.8 Vdc nominal)
Input Power	• BR20: 30 mA max (at 13.8 Vdc nominal) • BR21: 90 mA max (at 13.8 Vdc nominal)
Dimensions	•108 mm (4.25 in.) wide • 118 mm (4.625 in.) high • 44 mm (1.75 in.) deep
Packaging	Corrosion-resistant zinc plated steel with black enamel paint
Terminations	• 5-pole terminal block, 12...22 AWG, 15 A contacts • 8-pole RJ45-style jacks
Environment	• 5...95% RH, non-condensing • -40...70 °C (-40...158 °F) operation • -40...85 °C (-40...185 °F) storage
Certifications	North America HAZLOC • cCSAus • Non-Incendive • Class I, Div. 2, Groups A, B, C & D, T4 ATEX/IECEx HAZLOC • LCIE • ATEX II 3G, Ex nA IIC T4 per EN 60079-15, protection type n (Zone 2) • IECEx, Ex nA IIC T4 per IEC 60079-15, protection type n (Zone 2) EMC & Radio • North America: FCC, IC • Europe: CE Mark • Australia: RCM

Accutech BR20 | BR21

DIN Rail Mounted Base Radios

Specifications - Long-Haul Trio K-Series Radio (Available as an option on 900 MHz BR20 base radio only)

Functional

Location	Master, remote, repeater or network-bridge
Radio Frequency Range	• 902…928 MHz band (FCC/IC) • 915…928 MHz band (Australia) • Also available in 2.4 GHz version, contact factory for specifications
RF Channel Data Rate	32,000, 64,000, 128,000 or 256,000 bps

Features

Configuration Interface	TVIEW+: Windows®-based GUI software, providing configuration, network management and diagnostics
Radio Frequency Accuracy	±2.5 ppm
Transmitter	
Protection	Over-temperature and reverse power
Modulation	2 Level GFSK
Tx Key-up Time	<50 µS
Receiver	
Selectivity	Better than 50 dB
Intermodulation	Better than 65 dB
Connections	
Data Ports	2 x RJ45 female port wired as DCE (modem)
System/Diagnostics Port	1 x RJ45 for diagnostic, configuration and re-programming
Antenna	Two SMA
Terminations	• 5-pole removable terminal block, 12-22 AWG, 15 A contacts • 8-pole RJ-45 style jacks
LED Display	Four bi-color Red/Green LEDs: Power/Tx, Sync/NoRx, Port A Rx/Tx, Port B Rx/Tx

Accutech BR20 | BR21

DIN Rail Mounted Base Radios

Specifications - Long-Haul Trio K-Series Radio (Available as an option on 900 MHz BR20 base radio only)

Features

Modem	
Data Serial Port A	RS-232 RJ45 (DCE - RxD, TxD, CTS, RTS, DTR, DCD) Or RS-485 RJ45 (2 wires, Termination DIP switch-enabled)
Data Serial Port B	RS-232 RJ45 (DCE - RxD, TxD) RxD and TxD are 3.3V CMOS signals. (Shared with the System/ Diagnostics connection)
System/Diagnostics Port	RS-232 RJ45 (DTE - RxD, TxD) RxD and TxD are 3.3V CMOS signals. (Shared with Push-to-Talk (PTT) input.) (RJ45 Shared with the Port B connection.)
Flow Control	Hardware or 3-wire interface
Bit Error Rate	<1 x 10-6 @ –109 dBm
Encryption	256-bit AES encryption (within North America/Australia only)
Collision Avoidance	Channelshare™ collision avoidance system
Multistream™	Simultaneous delivery of multiple data protocols

General	
Transmit Current	500 mA (at 13.8 Vdc nominal)
Radio Frequency Accuracy	<120 mA (at 13.8 Vdc nominal)
RSSI Output	Receive Signal Strength Indication analog output available on P1 connector
Factory Default Input	Restore Factory Defaults available on P1 connector
1PPS	1PPS (pulse per second) input available on P1 connector
Push-to-Talk	PTT input available on Port B/DIAG COM port connector. DIP Switch-enabled
Power Supply Voltage Monitor	Yes
Operating Modes	• 5...95% RH, non-condensing • -40...70 °C (-40...158 °F) operation • -40...85 °C (-40...185 °F) storage
Diagnostics	• Network-wide operation from any remote terminal • Non-intrusive protocol - runs simultaneously with the application • Over-the-air re-configuration of parameters • Storage of data error and channel occupancy statistics • Built-in error rate testing capabilities

Accutech BR20 | BR21

DIN Rail Mounted Base Radios

Model Code - BR20

General

Approvals and Certifications	
IC	RSS 139 (RSS 210)
Hazardous Locations North America:	• CCSAUS Non-Incendive Electrical Equipment for use in Class I, Division 2 Hazardous Locations per CSA Std C22.2 No. 213-M1987 / UL1604 (3rd Ed.) Temperature Code T4 • CAN/CSA Std. C22.2 No.0-M91 (R2001) and CSA C22.2 No. 142-M1987 and UL508 (17th Ed.) in Canada and USA
Digital Emissions	• FCC 47 CFR Part 15, Subpart B, Class A Verification • ICES-003 Issue 4 (Canada) • AS/NZS CISPR 22: 2996 (Australia) • C-Tick. Registration number N15744

Accutech BR20 | BR21

DIN Rail Mounted Base Radios

Model Code - BR21 cont'd

TBUABR20-1000 represents a typical part number

Model	Type
TBUABR20	Wireless Base Radio

Code	Select: RF Module Type
1	902...928 MHz band (FCC / IC)
2	915...928 MHz band (Australia)
5	2.4 GHz band (CSA certified) [1]
6	2.4 GHz band (ATEX & IECEx certified) [1]

Code	Select: Long Haul Radio
0	None
	900 MHz Frequency Band (No antenna or cables included)
B	900 MHz Trio Spread Spectrum Radio with encryption, 902...928 MHz (FCC / IC)
C	900 MHz Trio Spread Spectrum Radio with encryption, 915...928 MHz (AUS)
	2.4 GHz Frequency Band (No antenna or cables included)
K	2.4 GHz Trio Spread Spectrum Radio with Encryption, 500 mW (CANADA, USA & AUSTRALIA)
L	2.4 GHz Trio Spread Spectrum Radio, 500 mW (OUTSIDE OF EUROPE, CANADA, USA & AUSTRALIA)

Code	Select: Future Option
0	None

Code	Select: Future Option
0	None

Accutech BR20 | BR21

DIN Rail Mounted Base Radios

Model Code - BR21 cont'd

TBUABR21-1000 represents a typical part number

Model	Type
TBUABR21	Wireless Base Radio

Code	Select: RF Module Type
1	902...928 MHz band (FCC / IC)
2	915...928 MHz band (Australia)
5	2.4 GHz band (CSA certified) [1]
6	2.4 GHz band (ATEX & IECEx certified) [1]

Code	Select: Long Haul Radio
0	None

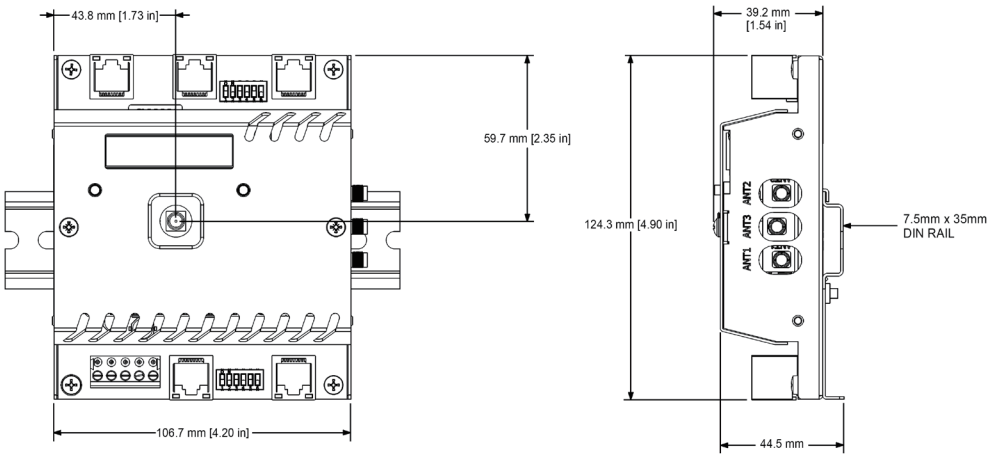
Code	Select: Future Option
0	None

Code	Select: Future Option
0	None

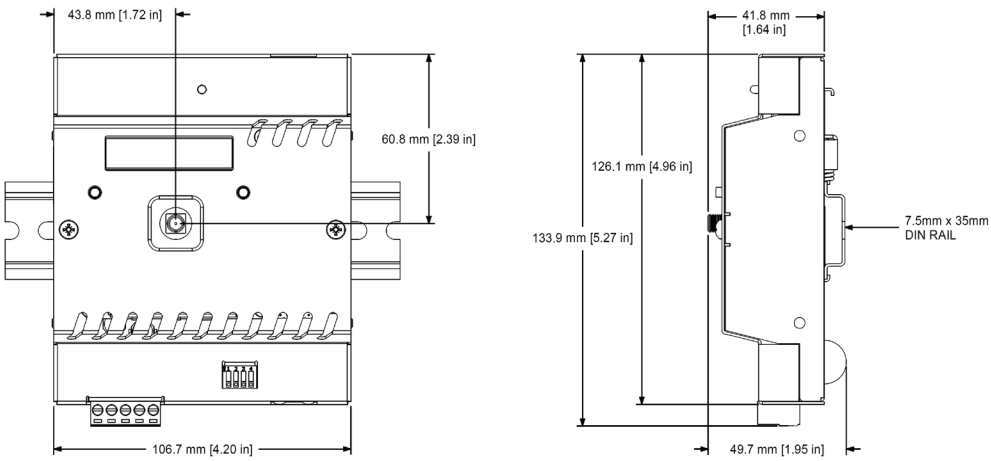
Accutech BR20 | BR21

DIN Rail Mounted Base Radios

Dimensions - BR20



Dimensions - BR21



Note: This product is RoHS-compliant.

Footnote: [1] A high gain antenna is recommended when selecting this option – see Accutech Accessories data sheet.

Accutech DP20

Wireless Differential Pressure Field Unit

Specifications - DP20

General

Sensor Type	Differential Pressure
Location	Field Unit
Frequency Range	900 MHz and 2.4 GHz license-free bands
Operational Modes	• Differential Pressure • Orifice Flow • Open Channel Flow • Level

Functional

Pressure Sensor	
Differential Pressure Ranges	+/- 100 in. H_2O, +/- 300 in. H_2O, +/- 25 psi, -25...+100 psi, -25...+300 psi
Accuracy	± 0.2% of sensor URL including combined effects of linearity, hysteresis, repeatability and temperature (applies to standard unit without isolating seals). Addition of seals will reduce accuracy due to thermal effects of fill fluid. Special ranges and accuracy may be available on request.
Field Spanning	Zero offset (to correct for positioning changes) and two-point (zero and span) calibration
Stability	Combined zero and span stability: less than ± 0.1% of sensor URL per year at 21 °C (70 °F)
Maximum Static Pressure	3000 psi
Differential Pressure Ranges	+/- 100 in. H_2O, +/- 300 in. H_2O, +/- 25 psi, -25...100 psi, -25...+300 psi
Sensor Filling Fluid	DC 200 silicone

Operating Ambient Environment	• -40...+104 °C (-40...+220 °F) process connection temperature, steady state • -40...+85 °C (-40...+185 °F) electronics • -40...+85 °C (-40...+185 °F) display (below -20 °C LCD visibility reduced) • Humidity: 0...95%, non-condensing
Materials of Construction	• Fittings: 316L Stainless Steel • Epoxy-coated Aluminum enclosure • Sensor Diaphragm: 316L Stainless Steel (Hastelloy C available upon special request) • Flange: 316L Stainless Steel • Bolts and Nuts: High Strength Alloy Steel
Power	• Self-contained power with integrated battery • 1: D-cell Lithium Thionyl battery • Battery life up to ten years of service, depending on configuration
Certifications	North America HAZLOC: • cCSAus • Intrinsically Safe: Exia IIC; AEx ia IIC • Class I, Div. 1, Groups A, B, C & D, T3 • Class 1, Zone 0, AEx ia IIC, T3 • Class I, Div. 2, Groups A, B, C & D, T4 ATEX/IECEx HAZLOC: • LCIE • Intrinsically Safe: Ex ia IIC T3 EMC & Radio: • North America : FCC , IC • Europe : CE Mark (R&TTE) • Australia : C - Tick

Accutech DP20

Wireless Differential Pressure Field Unit

Model Code - DP20

TBUADPTJ1N00S100NS represents a typical part number.

Model	Type
TBUADP	Wireless Differential Pressure Field Unit

Code	Select: RF Module Type
T	902...928 MHz band (FCC / IC)
D	915...928 MHz band (Australia)
F	2.4 GHz band

Code	Select: Certifications
	Intrinsically Safe Protection
J	CSA - see certification details on previous page
Q	ATEX & IECEx - see certification details on previous page

Code	Select: Housing & Battery Pack
1	NEMA 4X Housing with 1 D-cell

Code	Select: Future Option
N	None

Code	Select: Antenna
00	Integral Antenna (2.4 GHz unit comes default with integral antenna and external antenna connector)
04	External Antenna connector (antenna and antenna cables purchased separately from accessories section)

Code	Select: Sensor Mounting
S	Integral

Accutech DP20

Wireless Differential Pressure Field Unit

Model Code - DP20 (cont'd)

TBUADPTJ1N00S100NS represents a typical part number.

Code	Select: Sensor Range	
	Upper Range Limit (URL) and Lower Range Limit	**Overload Limit**
100N	+/- 100 in. H_2O	3000 psi
300N	+/- 300 in. H_2O	3000 psi
025P	+/- 25 psi	3000 psi
100P	+100, -25 psi	3000 psi
300P	+300, -25 psi	3000 psi

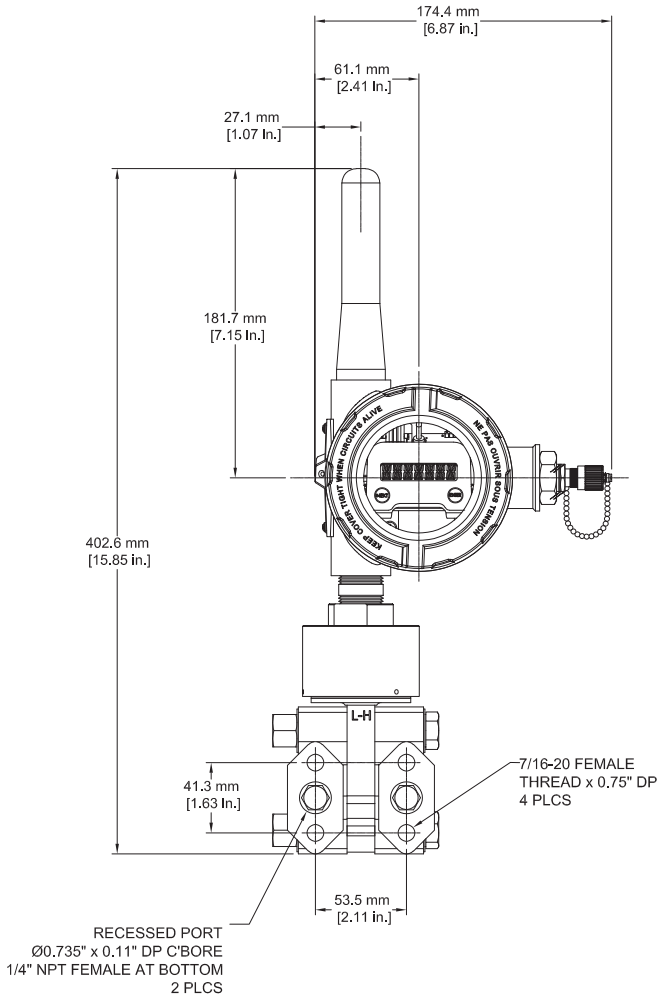
Code	Select: Sensor Type
S	Standard Sensor - Horizontal process connections with vertical mounting
L	Low Profile Sensor - Vertical process connections with vertical mounting

Accutech DP20

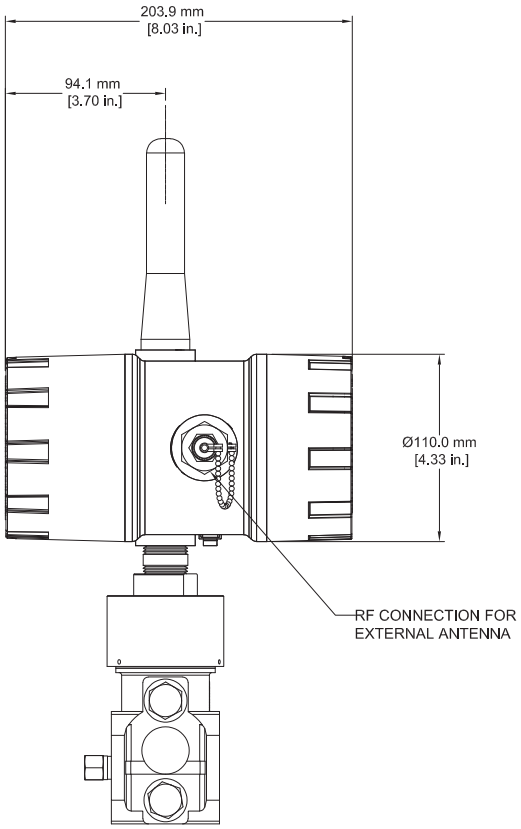
Wireless Differential Pressure Field Unit

Dimensions - DP20

FRONT VIEW



SIDE VIEW



Note: This product is RoHS-compliant.

Accutech FL10

Wireless Float Level Field Unit

Specifications - FL10

General

Sensor Type	Float Level
Location	Field Unit
Frequency Range	900 MHz and 2.4 GHz license-free bands

Functional

Digital Level Sensor (sold separately)

Model	Electrolab Model 2100 (low-power) sensors in both rigid and flexible formats. Support for legacy Electrolab Model 1000 installations (requires the 4 D-cell battery option and NEMA4X enclosure).
Accuracy	Available in 1/8 in., 1/4 in. and 1/2 in. resolutions
Switch Type	Magnetically-activated glass reed
Float Type	Magnetically-impregnated Nitrophyl rubber
Sampling Rates From Sensor	10 secs., 15 secs., 20 secs., 30 secs., 60 secs., 120 secs., 300 secs., 600 secs., 1800 secs., 3600 secs.
Frame	316 L stainless steel, fiberglass and polyethelene formats with 1.2...9.1 m (4...30 ft.) lengths
Temperature Sensor	Built-in, located 0.3 m (12 in.) above bottom of sensor, reports in degrees F

Operating Ambient Environment	• -40...+85 °C (-40...+185 °F) electronics • -40...+85 °C (-40...+185 °F) display (below -20 °C LCD visibility is reduced) • Humidity: 0...95%, non-condensing
Materials of Construction	• Fittings: 316 L Stainless Steel • Epoxy-coated Aluminum enclosure
Power	• Self-contained power with integrated battery • 1: D-cell • 2: D-cells • 4: D-cells, mandatory for Model 1000 level sensor • Lithium battery(ies) offer battery life up to ten years of service, depending on data rates and battery options.
Default Condition	• Condition activated upon non-response of sensor or error reported by sensor • Configurable behaviour on default condition includesreporting of max. value, zero or last good value
Data Post-Processing (when enabled)	• Level data only • Smart smoothing • User-configurable 22-point linearisation curve of level for non-linear (asymmetrical) reservoirs • Configurable “rate of change” threshold, when exceeded, causes radio to immediatley report data to base radio
Certifications	North America HAZLOC: • cCSAus • Intrinsically Safe: Exia IIA; AEx ia IIA • Class I, Div. 1, Groups A, B, C & D, T4 • Class I, Div. 2, Groups A, B, C & D, T4 [Provides Intrinsically-Safe Output with Entity Parameters for Connection to Certified Devices: Voc(Uo) = 9.6 V, Isc (Io) = 87 mA, Ca (Co) = 100 uF, La (Lo) = 84 mH] EMC & Radio: • North America : FCC, IC

Accutech FL10

Wireless Float Level Field Unit

Model Code - FL10

TBUAFLTJ1N00A represents a typical part number.

Model	Type
TBUAFL	Wireless Float Level Field Unit

Code	Select: RF Module Type
T	902...928 MHz band (FCC / IC)
D	915...928 MHz band (Australia)
F	2.4 GHz band

Code	Select: Certifications
A	Explosion-Proof Protection – Div 1 CSA - see certification details on previous page
J	Intrinsically-Safe Protection – Div 1 CSA - see certification details on previous page

Code	Select: Housing & Battery Pack
1	NEMA 4X Housing with 1 D-cell
2	NEMA 4X Aluminum Housing with 2 D-cells (not available for ATEX/IECex)
4	NEMA 4X Aluminum Housing with 4 D-cells (not available for ATEX/IECex)

Code	Select: Future Option
N	None

Code	Select: Antenna
00	Integral Antenna (2.4 GHz unit comes default with integral antenna and external antenna connector)
04	External Antenna connector (900 MHz only, antenna and cables purchased separately)

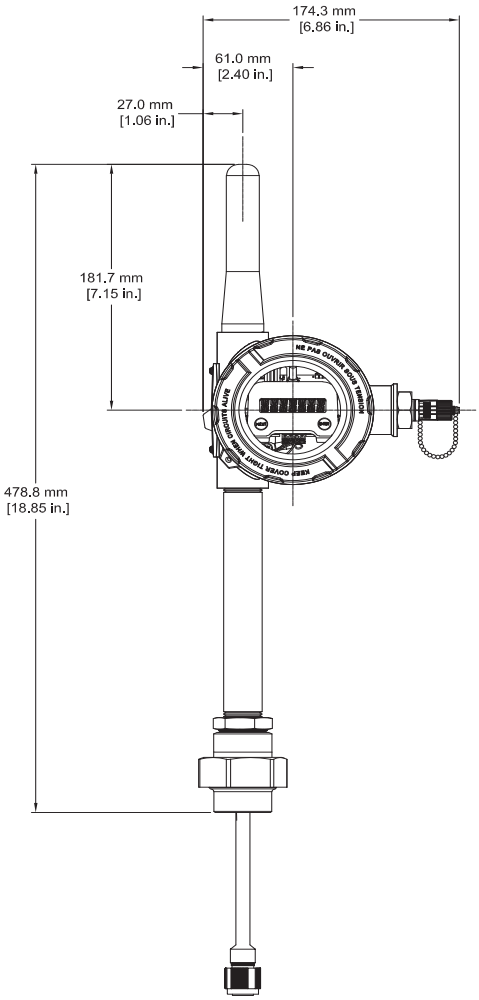
Code	Select: Level Sensor Type
A	Interface to Electrolab Model 2100 Digital Level Sensor (Purchased separately) - Meets Safety Code J

Accutech FL10

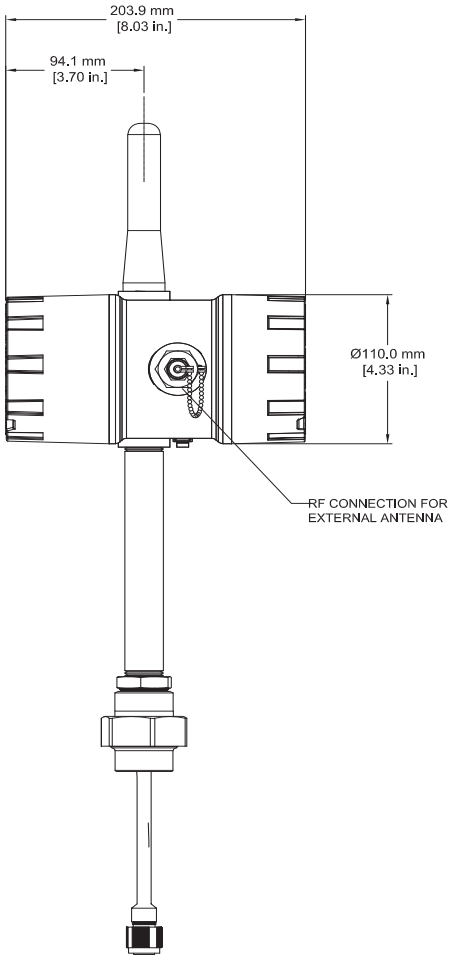
Wireless Float Level Field Unit

Dimensions - FL10

FRONT VIEW



SIDE VIEW



Note: This product is RoHS-compliant.

Accutech GL10

Wireless Gauge Level Field Unit

Specifications - GL10

General

Sensor Type	Gauge Level
Location	Field Unit
Frequency Range	900 MHz and 2.4 GHz license-free bands

Functional

Pressure Sensor	
Absolute Pressure Range	15 PSIA (1.034 BAR), 30 PSIA (2.068 BAR)
Accuracy	• ± 0.25% of full-scale at 20 °C (68 °F) • ± 0.5% of sensor URL over temperature range -40...+85 °C (-40...+185 °F)
Stability	Combined zero and span stability: less than ± 0.1% of sensor URL per year at 21 °C (70 °F)
Extended Sensors	The extended sensors enable installation of the electronics and wireless unit in an elevated, unobstructed location to enhance transmission range and isolate electronics from process vibration.
Operating Ambient Environment	• -40...+121 °C (-40...+250 °F) steady-state process temperature • -40...+85 °C (-40...+185 °F) electronics ambient temperature • -40...+85 °C (-40...+185 °F) display (below -20 °C LCD visibility reduced) ambient temperature • Humidity: 0...95%, non-condensing
Materials of Construction	• Fittings: 316L Stainless Steel • Epoxy-coated Aluminum enclosure
Power	• Self-contained power with integrated battery • 1: D-cell Lithium Thionyl battery • Battery life up to ten years of service, depending on configuration
Certifications	North America HAZLOC: • cCSAus • Intrinsically Safe: Exia IIC; AEx ia IIC • Class I, Div. 1, Groups A, B, C & D, T3 • Class II, Div. 1, Groups E, F and G, T3 • Class III, T3 • Class 1, Zone 0, AEx ia IIC, T3 • Class I, Div. 2, Groups A, B, C & D, T4 • Class II, Div. 2, Groups F and G, T4 • Class III, T4 ATEX/IECEx HAZLOC: • LCIE • Intrinsically Safe: Ex ia IIC T3 EMC & Radio: • North America : FCC , IC • Europe: CE Mark (R&TTE) • Australia: C-Tick

Accutech GL10

Wireless Gauge Level Field Unit

Model Code - GL10

TBUAGLTJ1N00S015A represents a typical part number.

Model	Type
TBUAGL	Wireless Gauge Level Field Unit

Code	Select: RF Module Type
T	902...928 MHz band (FCC / IC)
D	915...928 MHz band (Australia)
F	2.4 GHz band

Code	Select: Certifications
	Intrinsically Safe Protection
J	CSA - see certification details on previous page
Q	ATEX & IECEx - see certification details on previous page

Code	Select: Housing & Battery Pack
1	NEMA 4X Housing with 1 D-cell

Code	Select: Future Option
N	None

Code	Select: Antenna
00	Integral Antenna (2.4 GHz unit comes default with integral antenna and external antenna connector)
04	External Antenna connector (900 MHz only, antenna and cables purchased separately)

Code	Select: Sensor Mounting
S	Integral
R	Remote Sensor mounting with 10 ft. (3.05 m) cable

Accutech GL10

Wireless Gauge Level Field Unit

Model Code - GL10 (cont'd)

TBUAGLTJ1N00S015A represents a typical part number.

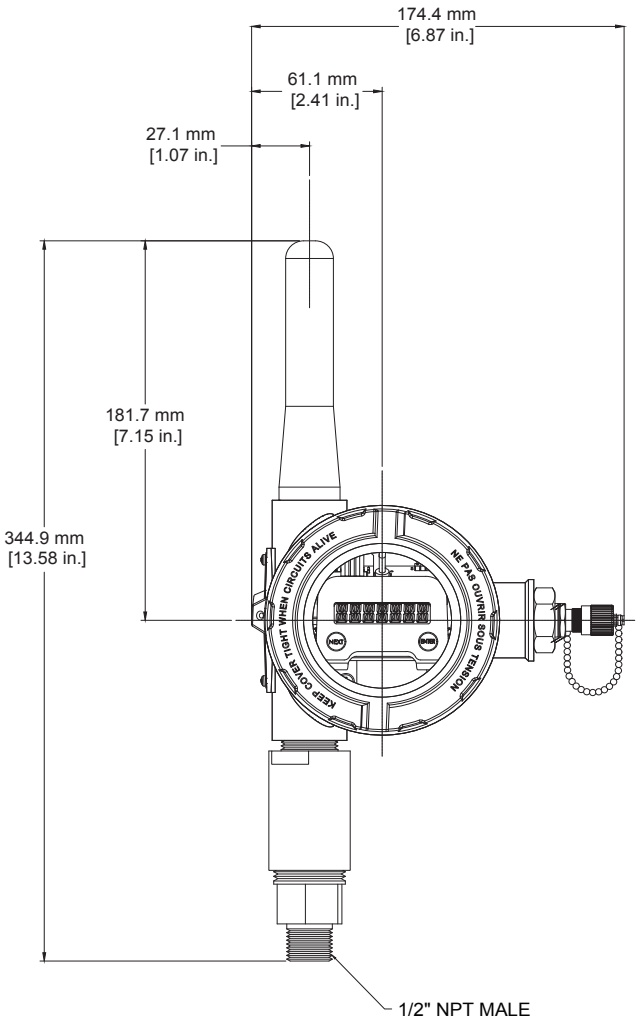
Code	Select: Sensor Range					
	Upper Range Limit (URL)		Proof Pressure		Burst Pressure	
	PSIA	BAR	PSIA	BAR	PSIA	BAR
015	15	1.034	30	2.068	500	34.5
030	30	2.068	60	4.137	500	34.5

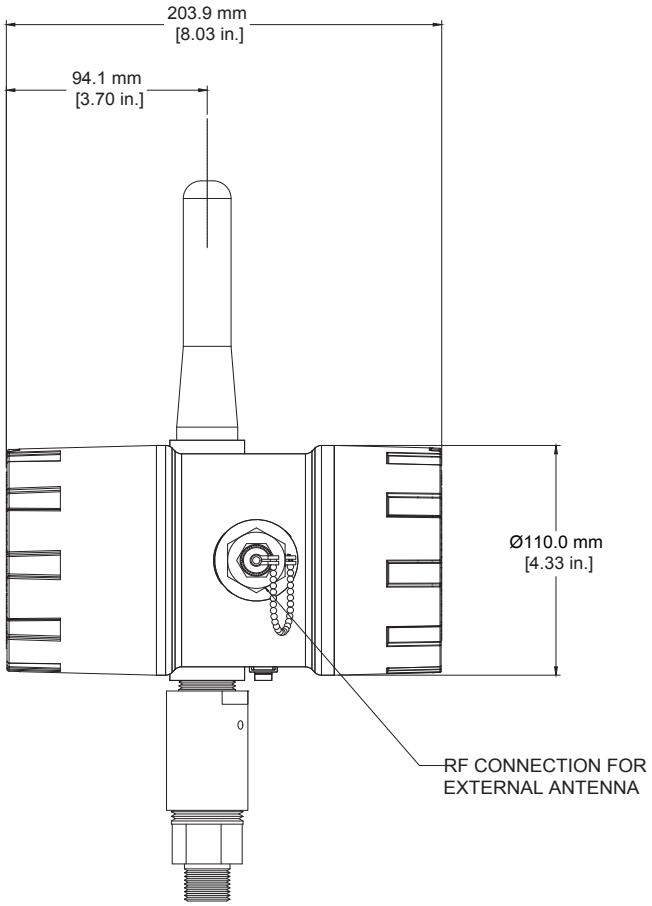
Code	Future Option
A	None

Accutech GL10

Wireless Gauge Level Field Unit

Dimensions - GL10





Note: This product is RoHS-compliant.

Accutech GP10

Wireless Gauge Pressure Field Unit

Specifications - GP10

General

Sensor Type	Gauge Pressure
Location	Field Unit
Frequency Range	900 MHz and 2.4 GHz license-free bands

Functional

Pressure Sensor

	Upper Range Limit (URL)		Proof Pressure		Burst Pressure	
	PSIG	**BAR**	**PSI**	**BAR**	**PSI**	**BAR**
Range	15	1	30	2	75	5
	30	2	60	4	150	10
	100	7	200	14	500	34
	250	17	500	34	1250	86
	1000	70	2000	138	5000	345
	2500	170	5000	345	12500	862
	5000	350	10000	689	20000	1379
	10000	700	20000	1379	30000	2068
	15000	100	30000	2068	40000	2758

	Sensor Range psig	**Accuracy**
Accuracy	15	± 0.5% of full-scale reading over temperature range
	30	± 0.5% of full-scale reading over temperature range
	100	± 0.5% of full-scale reading over temperature range
	250	± 0.5% of full-scale reading over temperature range
	1000	± 0.5% of full-scale reading over temperature range
	2500	± 0.3% of full-scale reading over temperature range
	5000	± 0.3% of full-scale reading over temperature range
	10000	± 0.5% of full-scale reading over temperature range
	15000	± 0.25% of full-scale reading over temperature range

Stability	Combined zero and span stability: less than ± 0.1% of sensor URL per year at 21 °C (70 °F)
Operating Ambient Environment	• -40...+85 °C (-40...+185 °F) electronics • -40...-20 °C (-40...-4 °F) display (with reduced visibility) • Humidity: 0...95%, non-condensing
Materials of Construction	• Type 316 stainless steel base and diaphragm • Standard 1.25 cm (0.5 in.) MNPT (other options available, see Model Code section) • Epoxy-coated aluminum enclosure
Power	• Self-contained power with integrated battery • 1: D-cell Lithium Thionyl battery • Battery life up to ten years of service, depending on configuration

Accutech GP10

Wireless Gauge Pressure Field Unit

Model Code - GP10

TBUAGPTJ1N00S005A represents a typical part number.

Model	Type
TBUAGP	Wireless Gauge Pressure Field Unit

Code	Select: RF Module Type
T	902...928 MHz band (FCC / IC)
D	915...928 MHz band (Australia)
F	2.4 GHz band

Code	Select: Certifications
	Intrinsically Safe Protection
J	CSA - see certification details on previous page
Q	ATEX & IECEx - see certification details on previous page

Code	Select: Housing & Battery Pack
1	NEMA 4X Housing with 1 D-cell

Code	Select: Future Option
N	None

Code	Select: Antenna
00	Integral Antenna (2.4 GHz unit comes default with integral antenna and external antenna connector)
04	External Antenna connector (900 MHz only, antenna and cables purchased separately)

Code	Select: Sensor Mounting
	For 15 to 10K PSI Sensors
S	Integral Sensor mounting with 1/2 in. NPT fitting
R	Remote Sensor mounting with 10 ft. cable and 1/2 in. NPT fitting

Accutech GP10

Wireless Gauge Pressure Field Unit

Model Code - GP10 (cont'd)

TBUAGPTJ1N00S005A represents a typical part number.

Code	Select: Sensor Mounting (cont'd)
	For 15K PSI Sensors
	F250 Fitting
E	Remote Sensor mounting with 3.01 m (10 ft.) cable and F250 fitting
	NPT Fitting - consult factory for delivery
R	Remote Sensor mounting with 3.01 m (10 ft.) cable and 1/4 in. NPT fitting

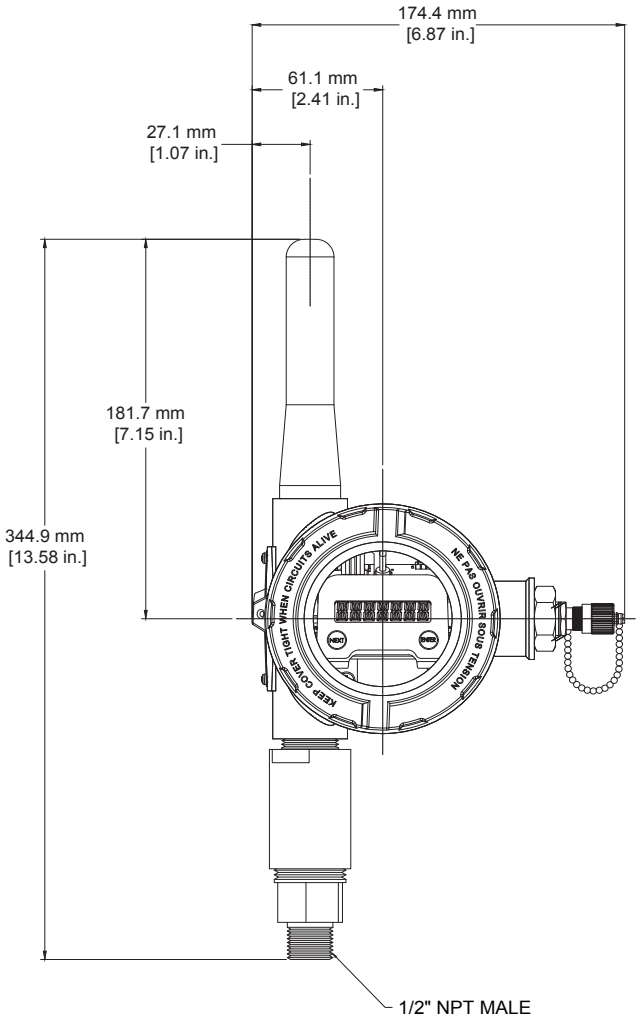
Code	Select: Sensor Range					
	Upper Range Limit (URL)		Proof Pressure		Burst Pressure	
	PSIG	(BAR	PSI	(BAR	PSI	(BAR
015	15	1	30	2	75	5
030	30	2	60	4	150	10
100	100	7	200	14	500	34
250	250	17	500	34	1250	86
1K0	1000	70	2000	138	5000	345
2K5	2500	170	5000	345	12500	862
5K0	5000	350	10000	689	20000	1379
10K	10000	700	20000	1379	30000	2068
15K	15000	1030	30000	206	40000	2758

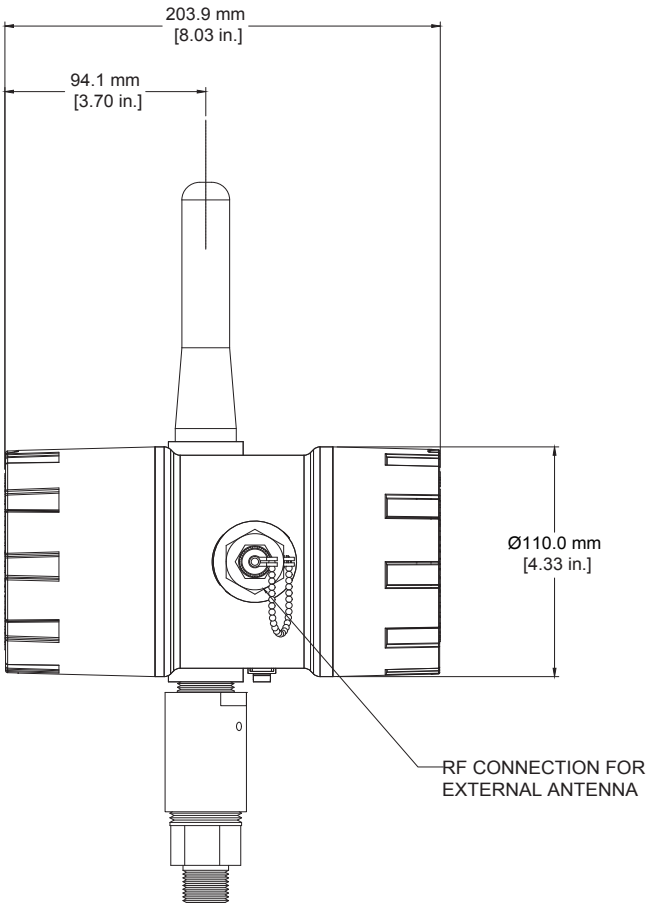
Code	Future Option
A	None

Accutech GP10

Wireless Gauge Pressure Field Unit

Dimensions - GP10





Note: This product is RoHS-compliant.

Accutech RT10

Wireless RTD Temperature Field Unit

Specifications - RT10

General

Sensor Type	RTD Temperature
Location	Field Unit
Frequency Range	900 MHz and 2.4 GHz license-free bands

Functional

RTD Temperature Sensor	
Temperature Range	-200...800 °C (-330...1470 °F)
Accuracy	Electronics accuracy: • ± 0.1% of full scale reading Ambient temperature effect: • ± 0.002% of reading per °C (1.8 °F) ambient temperature difference from reference condition (20 °C or 68 °F). Stability: • Deviation per year is less than 0.025% RTD accuracy: • 100 ohm platinum RTD: ± (0.15+0.002*|T|) for temperatures in the range -100 °C < T < 450 °C • For user-provided thermocouples see the manufacturer's data sheet.

Linearisation	RTD linearization to ± .05 °C (0.09 °F), custom linearisation with 22-point curve
Operating Ambient Environment	• –40...85 °C (–40...185 °F) electronics • –40...–20 °C (–40...–4 °F) display (below -20 °C LCD visibility reduced) • Humidity: 0...95%, non-condensing
Materials of Construction	• Fittings: 316L Stainless Steel • Epoxy-coated Aluminum enclosure
Power	• Self-contained power with integrated battery • 1: D-cell Lithium Thionyl battery • Battery life up to ten years of service, depending on configuration
Certifications	North America HAZLOC: • cCSAus • Intrinsically Safe: • Ex ia IIC. T3; Class I, Zone 0, AEx ia IIC. T3 • Class I, Div. 1, Groups A, B, C & D, T3 • Class II, Div. 1, Groups E, F and G, T3 • Class III, T3 • Class I, Div. 2, Groups A, B, C & D, T4 • Class II, Div. 2, Groups F and G, T4 • Class III, T4 ATEX/IECEx HAZLOC: • Intrinsically Safe • Ex ia IIC T3 • LCIE 10 ATEX 3109 X • IECEx LCI 10.0045X EMC & Radio: • North America: FCC , IC • Europe: CE Mark • Australia: C-Tick

Accutech RT10

Wireless RTD Temperature Field Unit

Model Code - RT10

TBUARTTJ1N00B0N000 represents a typical part number.

Model	Type
TBUART	Wireless RTD Temperature Field Unit

Code	Select: RF Module Type
T	902...928 MHz band (FCC / IC)
D	915...928 MHz band (Australia)
F	2.4 GHz band

Code	Select: Certifications
	Intrinsically Safe Protection
J	CSA - see certification details on previous page
Q	ATEX & IECEx - see certification details on previous page

Code	Select: Housing & Battery Pack
1	NEMA 4X Housing with 1 D-cell

Code	Select: Future Option
N	None

Code	Select: Antenna
00	Integral Antenna (2.4 GHz unit comes default with integral antenna and external antenna connector)
04	External Antenna connector (900 MHz only, antenna and cables purchased separately)

Code	Select: Sensor Mounting
S	Integrated RTD (Requires selection of Type, Fitting and Probe length below)
B	Remotely mounted RTD - c/w NEMA 4 Aluminum rear-entry junction box (RTD & Bracket not included)
D	Remotely mounted RTD - c/w NEMA 4X Stainless Steel rear-entry junction box (RTD & Bracket not included)

Accutech RT10

Wireless RTD Temperature Field Unit

Model Code - RT10 (cont'd)

TBUARTTJ1N00B0N000 represents a typical part number.

Code	Select: RTD Type
0	No RTD (purchased separately)
1	4-wire DIN curve 100 ohm platinum RTD

Code	Select: Fitting
N	No RTD (purchased separately - junction box provided for field termination)
B	Spring-loaded fitting (customer to install in thermowell)
D	Direct-insertion, welded

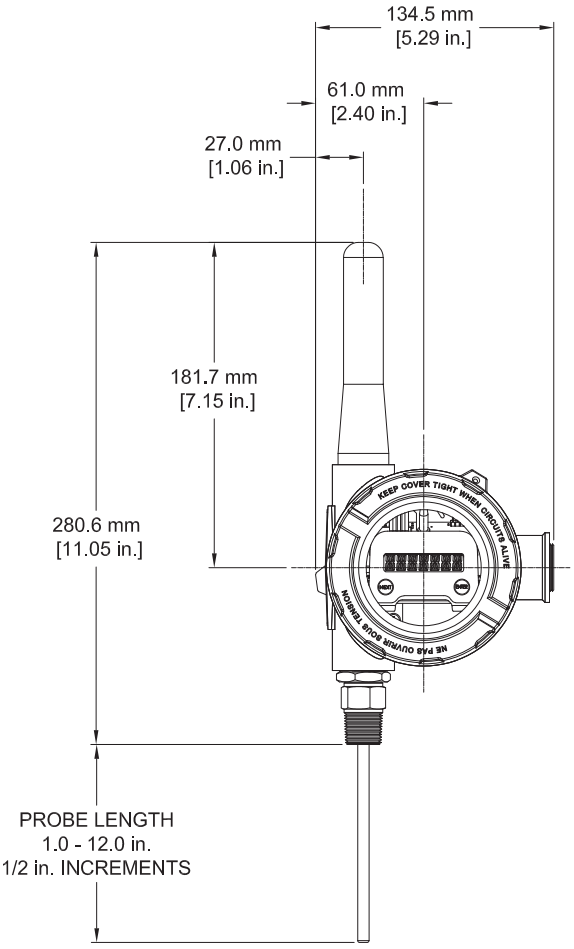
Code	Select: Probe Length – 0.5 in. increments only
000	No RTD (Purchased separately)
XXX	Enter Required Probe length XX . X in. as XXX (no decimal point) - contact factory for > 9 in.

Accutech RT10

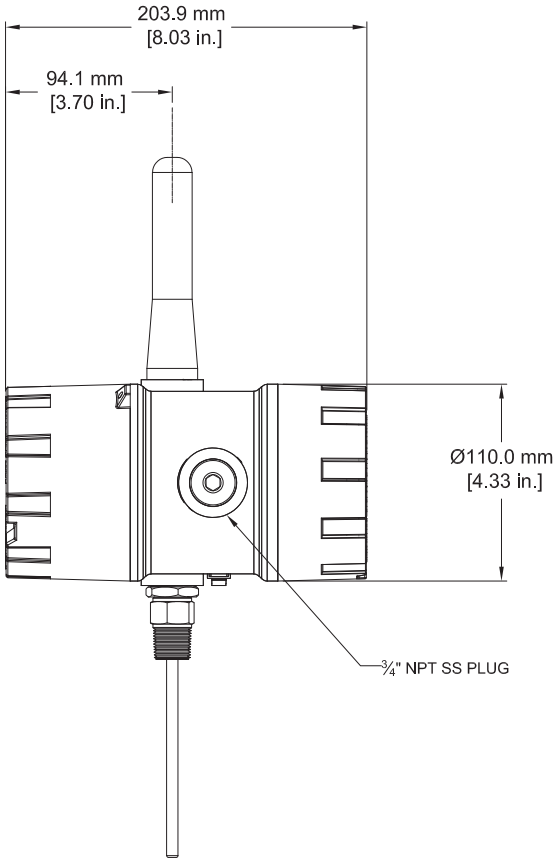
Wireless RTD Temperature Field Unit

Dimensions - RT10

FRONT VIEW



SIDE VIEW



Note: This product is RoHS-compliant.

Accutech SI10

Wireless Switch Input Field Unit

Specifications - SI10

General

Sensor Type	Switch-Input with optional Switch Outputs [1]
Location	Field Unit
Frequency Range	900 MHz and 2.4 GHz license-free bands

Functional

Inputs	Two contact-closure. One or both inputs may be used in counter mode. (For installation in hazardous areas, the contacts must be simple devices with no energy storage capability).
Input Characteristics	• Max. switch impedance 1.0 kΩ • Input Isolation between Input 1 to Input 2 = 20 kΩ • The counter inputs support a maximum input frequency of 5 Hz with a 50% duty cycle. The input must be in a state for 100 ms for the state to be recognised. Detection of rising or falling edge or both edges.
Outputs[1]	• 2: optional switch outputs. Outputs are dry-contact; external power is required for equipment being controlled. • Max. switching up to 1 A at 30 Vdc • Remotely controlled by writing data to base radio • Configurable default and power-up state
Operating Ambient Environment	• -40...+85 °C (-40...+185 °F) electronics • -40...+85 °C (-40...+185 °F) display (below -20 °C LCD visibility reduced) • Humidity: 0...95%, non-condensing
Materials of Construction	• Fittings: 316L Stainless Steel • Epoxy-coated Aluminum enclosure
Power	• Self-contained power with integrated battery • 1: D-cell Lithium Thionyl battery • Battery life up to ten years of service, depending on configuration
Certifications	North America HAZLOC: • cCSAus • Intrinsically Safe: Exia IIC; AEx ia IIC • Class I, Div. 1, Groups A, B, C & D, T4 • Class II, Div. 1, Groups E, F and G, T3 • Class III, T3. • Class 1, Zone 0, AEx ia IIC, T3 • Class I, Div. 2, Groups A, B, C & D, T4 • Class II, Div. 2, Groups F and G, T4 • Class III, T4. • Explosion Proof: • Class I, Div. 1, Groups A, B, C & D; T4 • Class I, Div. 2, Groups A, B, C & D; T4 ATEX/IECEx HAZLOC: • LCIE • Intrinsically Safe: Ex ia IIC T3 EMC & Radio: • North America : FCC , IC • Europe: CE Mark (R&TTE) • Australia: C-Tick

Accutech SI10

Wireless Switch Input Field Unit

Model Code - SI10

TBUASITJ1N00A represents a typical part number.

Model	Type
TBUASI	Wireless Dual-Contact Switch Input Field Unit

Code	Select: RF Module Type
T	902...928 MHz band (FCC / IC)
D	915...928 MHz band (Australia)
F	2.4 GHz band

Code	Select: Certifications
A	Explosion Proof Protection – Div 1 CSA - see certification details on previous page
E	Non-Incendive Protection – Div 2 CSA - see certification details on previous page (for digital output option only)
J	Intrinsically Safe Protection – Div 1 CSA - see certification details on previous page
Q	Intrinsically Safe Protection – Div 1 ATEX & IECEx - see certification details on previous page

Code	Select: Housing & Battery Pack
1	NEMA 4X Housing with 1 D-cell
2	NEMA 4X Aluminum Housing with 2 D-cells (not available for ATEX/IECex)
4	NEMA 4X Aluminum Housing with 4 D-cells (not available for ATEX/IECex)

Code	Select: Digital Outputs[1]
N	None
E	2 Digital outputs – supported by BR20 Base Radio only (suitable for Div2 rating only)

Accutech SI10

Wireless Switch Input Field Unit

Model Code - SI10 (cont'd)

TBUASITJ1N00A represents a typical part number.

Code	Select: Antenna
00	Integral Antenna (2.4 GHz unit comes default with integral antenna and external antenna connector)
04	External Antenna connector (900 MHz only, antenna and cables purchased separately)

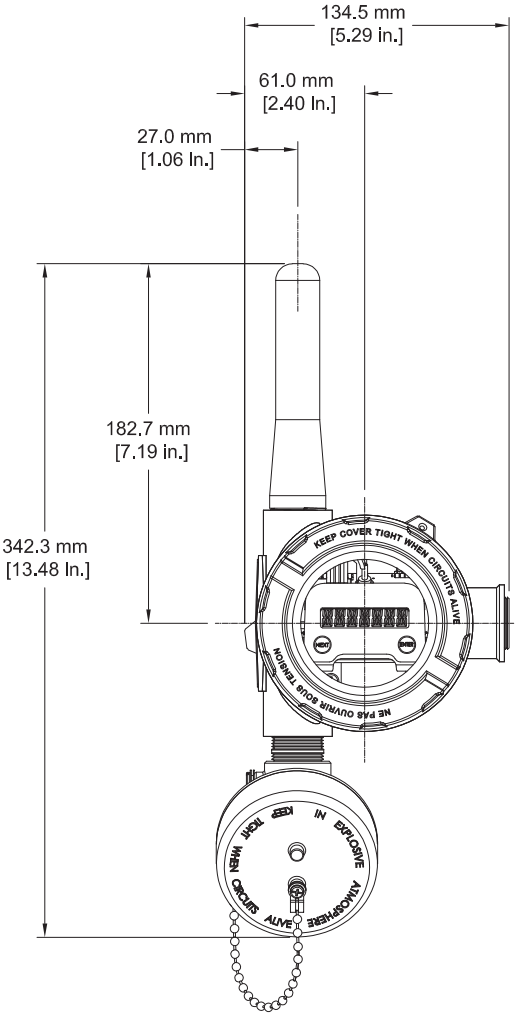
Code	Select: Junction Box
A	No Junction Box (exposed lead wires)
B	NEMA4 - Aluminum Rear Entry
D	NEMA 4X - Stainless Steel Rear Entry

Accutech SI10

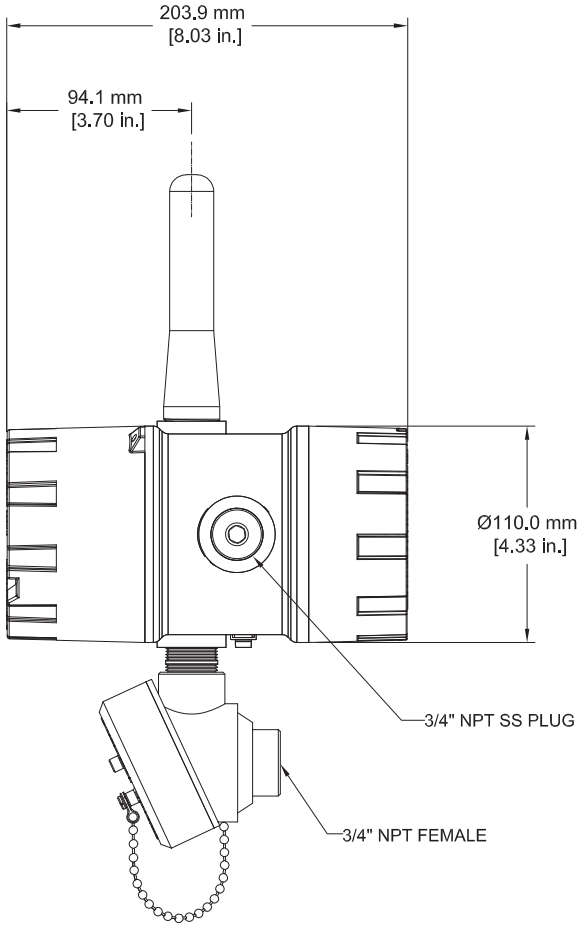
Wireless Switch Input Field Unit

Dimensions - SI10

FRONT VIEW



SIDE VIEW



Note: This product is RoHS-compliant.

Footnote: [1] Requires BR20/BR21 as network base radio.

Accutech SL10

Wireless Submersible Level Field Unit

Specifications - SL10

General

Sensor Type	Submersible Hydrostatic Level
Location	Field Unit
Frequency Range	900 MHz and 2.4 GHz license-free bands

Functional

Pressure Sensor	
Pressure Range	5 PSIG (0.345 BAR), 10 PSIG (0.689 BAR), 15 PSIG (1.034 BAR), 30 PSIG (2.068 BAR)
Accuracy	+/- 0.5% from -10...+30 °C (+14...+86 °F)
Temperature Effect	+/-0.02% per °C between -40...-10 °C (-40...+14 °F), and +30...+85 °C (+86...+155 °F)
Stability / Drift	Typically values are ± 0.1% of full scale per year. Maximum values are ± 0.3% per year.

Operating Ambient Environment	• -40...+85 °C (-40...+185 °F) head unit electronics • -40...+85 °C (-40.+185 °F) display (below -20 °C LCD visibility reduced) • -2...+60 °C (-4...+140 °F) process fluid temperature • Humidity: 0...95%, non-condensing
Materials of Construction	• Fittings: 316L Stainless Steel • Epoxy-coated Aluminum enclosure • Sensor Body: 316L Stainless Steel with Buna-N seal • Submersible Sensor Cable: Sensor cable and vent tube is encased in polyethylene jacket, rated for use in many harsh environments. Vent tube protected with a hydrophobic filter.
Power	• Self-contained power with integrated battery • 1: D-cell Lithium Thionyl battery • Battery life up to ten years of service, depending on configuration
Certifications	North America HAZLOC: • cCSAus • Intrinsically Safe: Exia IIC; AEx ia IIC • Class I, Div. 1, Groups A, B, C & D, T3 • Class II, Div. 1, Groups E, F and G, T3 • Class III, T3 • Class 1, Zone 0, AEx ia IIC, T3 • Class I, Div. 2, Groups A, B, C & D, T4 • Class II, Div. 2, Groups F and G, T4 • Class III, T4 ATEX/IECEx HAZLOC: • LCIE • Intrinsically Safe: Ex ia IIC T3 EMC & Radio: • North America : FCC , IC • Europe: CE Mark (R&TTE) • Australia: C-Tick

Accutech SL10

Wireless Submersible Level Field Unit

Model Code - SL10

TBUASLTJ1N00RA15A represents a typical part number.

Model	Type
TBUASL	Wireless Submersible Level Field Unit

Code	Select: RF Module Type
T	902...928 MHz band (FCC / IC)
D	915...928 MHz band (Australia)
F	2.4 GHz band

Code	Select: Certifications
	Intrinsically Safe Protection
J	CSA - see certification details on previous page
Q	ATEX & IECEx - see certification details on previous page

Code	Select: Housing & Battery Pack
1	NEMA 4X Housing with 1 D-cell

Code	Select: Future Option
N	None

Code	Select: Antenna
00	Integral Antenna (2.4 GHz unit comes default with integral antenna and external antenna connector)
04	External Antenna connector (900 MHz only, antenna and cables purchased separately)

Accutech SL10

Wireless Submersible Level Field Unit

Model Code - SL10 (cont'd)

TBUASLTJ1N00RA15A represents a typical part number.

Code	Select: Sensor Mounting
	Standard Field Unit
N	Remote Sensor with no intermediate cable gland
R	Remote Sensor with S.S. & Brass intermediate cable gland
T	Remote Sensor with Nylon intermediate cable gland
	Direct Tank Port Connect Field Unit (1 in. NPT Male) – For Integral Antenna units only
D	Remote Sensor with no intermediate cable gland

Code	Select: Sensor Range & Cable Length					
First letter in Code designates the Sensor Range; following two-digit number specifies sensor cable length [2]						
	Upper Range Limit (URL)		Proof Pressure		Standard Cable Length	
	PSIG	BAR	PSI	BAR	Feet	Meters
A15	5 [1]	0.345	10	0.689	15	4.6
B30	10 [1]	0.689	20	1.379	30	9.1
C40	15	1.034	30	2.068	40	12.2
F75	30 [1]	2.068	60	4.137	75	22.9

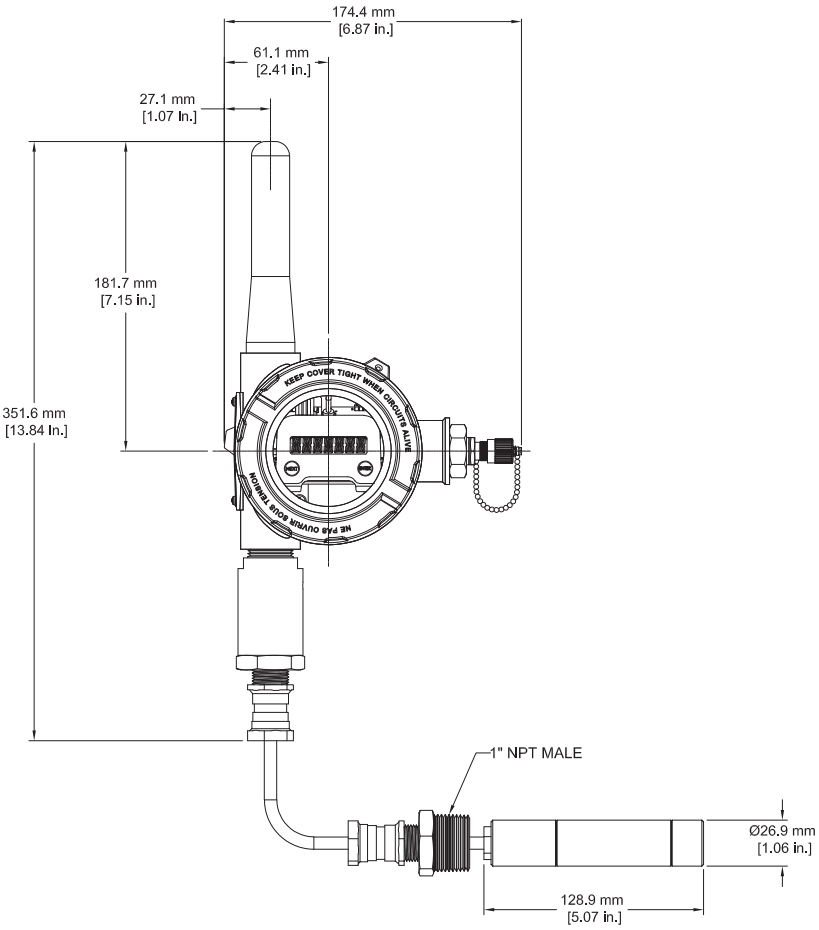
Code	Future Option
A	None

Accutech SL10

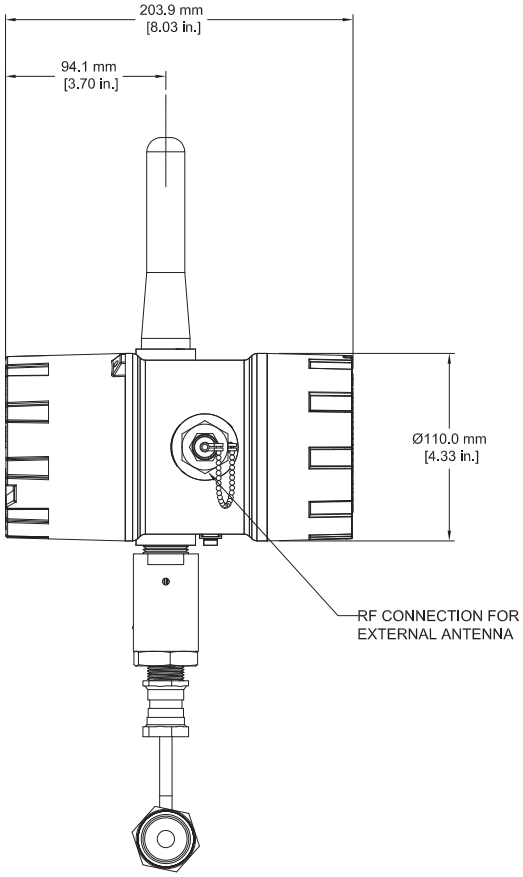
Wireless Submersible Level Field Unit

Dimensions - SL10

FRONT VIEW



SIDE VIEW



Footnotes: [1] Consult factory for lead time on units requiring non-standard lengths.
[2] Sensor Element Size: Length = 5.0 in. (12.7 cm) , Outer Diameter = 1.063 in. (2.7 cm)

Accutech TC10

Wireless Thermocouple Temperature Field Unit

Specifications - TC10

General

Sensor Type	Thermocouple Temperature
Location	Field Unit
Frequency Range	900 MHz and 2.4 GHz license-free bands

Functional

Thermocouple Temperature Sensor	
Thermocouple Types	• J: 0...760 °C (32...1400 °F) • K: 0...1260 °C (32...2300 °F) • T: 0...370 °C (32...700 °F)
Accuracy	Electronics accuracy: • ± 0.1% of full-scale reading plus 1 °C (1.8 °F) for thermocouple cold-junction effect at reference conditions Ambient temperature effect: • ± 0.01% of reading per °C (1.8 °F) ambient temperature difference from reference condition 20 °C (68 °F). Stability: • Deviation per year is less than 0.025% Thermocouple accuracy: • J-Type: the greater of +/- 1.1 °C (2 °F) or 0.4% of reading • K-Type: the greater of +/- 1.1 °C (2 °F) or 0.4% of reading • T-Type: the greater of +/- 0.5 °C (0.9 °F) or 0.4% of reading • For user-provided thermocouples see the manufacturer's data sheet.
Stability	Stability Deviation per year is less than 0.025%
Operating Ambient Environment	• -40...+85 °C (-40...+185 °F) electronics • -40...+85 °C (-40...+185 °F) display (below -20 °C LCD visibility reduced) • Humidity: 0...95%, non-condensing
Materials of Construction	• Fittings: 316L Stainless Steel • Epoxy-coated Aluminum enclosure • Process Connection: 1/2 in. MNPT
Power	• Self-contained power with integrated battery • 1: D-cell Lithium Thionyl battery • Battery life up to ten years of service, depending on configuration
Certifications	North America HAZLOC: • cCSAus • Intrinsically Safe: Exia IIC; AEx ia IIC • Class I, Div. 1, Groups A, B, C & D, T3 • Class II, Div. 1, Groups E, F and G, T3 • Class III, T3 • Class 1, Zone 0, AEx ia IIC, T3 • Class I, Div. 2, Groups A, B, C & D, T4 • Class II, Div. 2, Groups F and G, T4 • Class III, T4 ATEX/IECEx HAZLOC: • LCIE • Intrinsically Safe: Ex ia IIC T3 EMC & Radio: • North America : FCC , IC • Europe: CE Mark • Australia: C-Tick

Accutech TC10

Wireless Thermocouple Temperature Field Unit

Model Code - TC10

TBUATCTJ1N00A0N000 represents a typical part number.

Model	Type
TBUATC	Wireless Thermocouple Field Unit

Code	Select: RF Module Type
T	902...928 MHz band (FCC / IC)
D	915...928 MHz band (Australia)
F	2.4 GHz band

Code	Select: Certifications
	Intrinsically Safe Protection
J	CSA - see certification details on previous page
Q	ATEX & IECEx - see certification details on previous page

Code	Select: Housing & Battery Pack
1	NEMA 4X Housing with 1 D-cell

Code	Select: Future Option
N	None

Code	Select: Antenna
00	Integral Antenna (2.4 GHz unit comes default with integral antenna and external antenna connector)
04	External Antenna connector (900 MHz only, antenna and cables purchased separately)

Code	Select: Sensor Mounting (Remotely-mounted T/C[1] options provide connections for 2 T/C)
S	Integrated T/C (Requires selection of Type, Fitting and Probe length below)
A	Remotely mounted T/C - No junction box, exposed lead wires (T/C & Bracket not included)
B	Remotely mounted T/C - c/w NEMA 4 Aluminum rear entry junction box (T/C & Bracket not included)
D	Remotely mounted T/C - c/w NEMA 4X Stainless Steel rear entry junction box (T/C & Bracket not included)

Accutech TC10

Wireless Thermocouple Temperature Field Unit

Model Code - TC10 (cont'd)

TBUATCTJ1N00A0N000 represents a typical part number.

Code	Select: Thermocouple Type
0	No Thermocouple (Purchased separately - TC10 supports Type B, C, E, J, K, L, N, R, T and U)
1	J Type
2	K Type
4	T Type

Code	Select: Fitting
N	No T/C (purchased separately - junction box provided for field termination)
B	Spring-loaded fitting (customer to install in thermowell)
D	Direct-insertion, welded

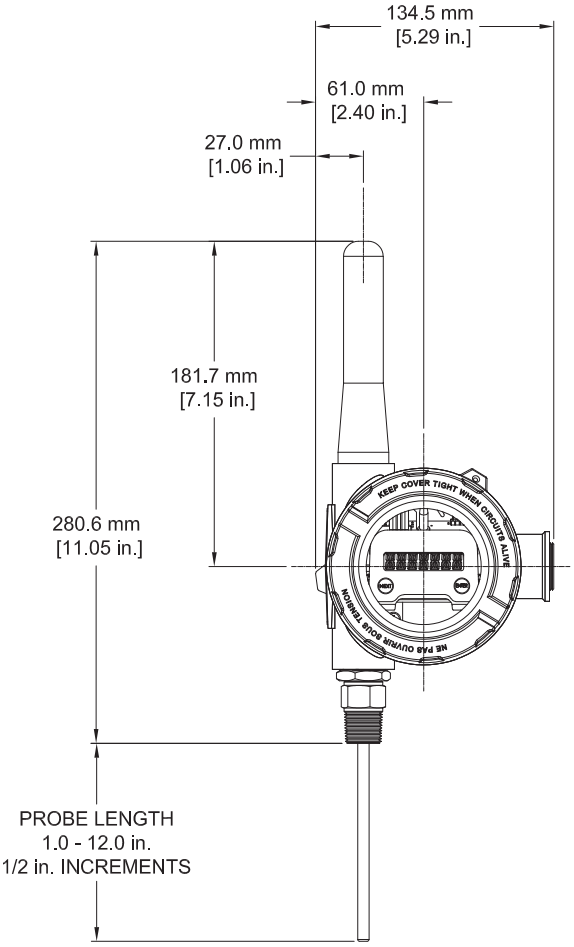
Code	Select: Probe Length – 0.5 in. increments only
000	No T/C (Purchased separately)
XXX	Enter Required Probe length XX . X in. as XXX (no decimal point) - contact factory for > 9 in.

Accutech TC10

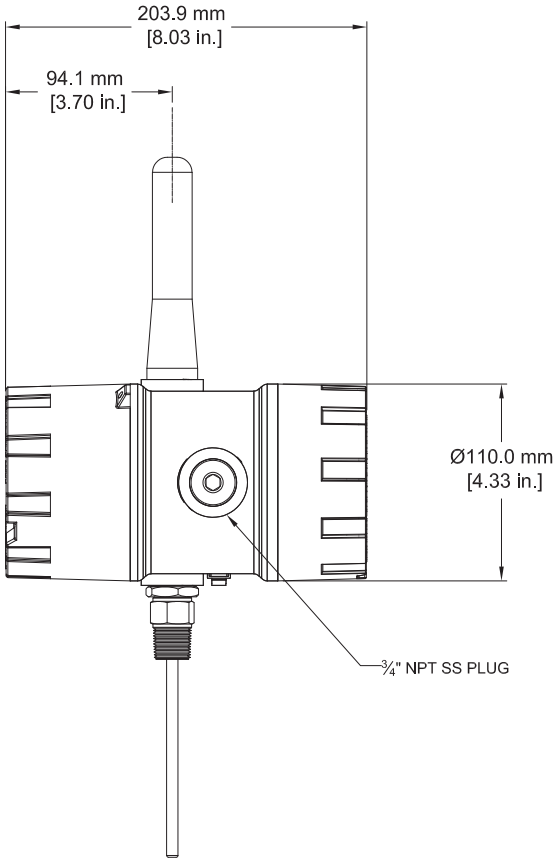
Wireless Thermocouple Temperature Field Unit

Dimensions - TC10

FRONT VIEW



SIDE VIEW



Note: This product is RoHS-compliant.

Footnote: [1] T/C = Thermocouple

Accutech TM10

Wireless Turbine Meter Totalizer Field Unit

Specifications - TM10

General

Sensor Type	Turbine Meter Totaliser
Location	Field Unit
Frequency Range	900 MHz and 2.4 GHz license-free bands

Functional

Turbine Meter	
Frequency Range	4 Hz...10 KHz
Electronic Accuracy and Stability	• Flow Rate accurate to ±0.01% of reading (not including turbine meter and pickup) • Applies to pulse frequencies above low cut-off of 4 Hz
Physical Connection	1 in. female NPT connection to Turbine Meter Union for easy removal, pickup installation and replacement
Magnetic Pickup	Two-wire connector supplied. See supported model numbers in the Sensor Pickup section of the model code
Input Sensitivity (typical)	• 3.5 mV RMS @ 5 Hz • 3.5 mV RMS @ 50 Hz • 5 mV RMS @ 500 Hz • 45 mV RMS @ 5000 Hz
Operating Ambient Environment	• -40...+85 °C (-40...+185 °F) electronics • -40...+85 °C (-40...+185 °F) display (below -20 °C LCD visibility reduced) • Humidity: 0...95%, non-condensing
Materials of Construction	• Fittings: 316L Stainless Steel • Epoxy-coated Aluminum enclosure
Power	• Self-contained power with integrated battery • 1: D-cell Lithium Thionyl battery • Battery life up to ten years of service, depending on configuration
Certifications	North America HAZLOC: • cCSAus • Intrinsically Safe: Exia IIC; AEx ia IIC • Class I, Div. 1, Groups A, B, C & D, T3 • Class 1, Zone 0, AEx ia IIC, T3 • Class I, Div. 2, Groups A, B, C & D, T4 ATEX/IECEx HAZLOC: • LCIE • Intrinsically Safe: Ex ia IIC T3 EMC & Radio: • North America : FCC , IC • Europe: CE Mark (R&TTE) • Australia: C-Tick

Accutech TM10

Wireless Turbine Meter Totalizer Field Unit

Model Code - TM10

TBUATMTJ1N00A00NA represents a typical part number.

Model	Type
TBUATM	Wireless Turbine Meter Totaliser Field Unit

Code	Select: RF Module Type
T	902...928 MHz band (FCC / IC)
D	915...928 MHz band (Australia)
F	2.4 GHz band

Code	Select: Certifications
	Intrinsically Safe Protection
J	CSA - see certification details on previous page
Q	ATEX & IECEx - see certification details on previous page

Code	Select: Housing & Battery Pack
1	NEMA 4X Housing with 1 D-cell

Code	Select: Future Option
N	None

Code	Select: Antenna
00	Integral Antenna (2.4 GHz unit comes default with integral antenna and external antenna connector)
04	External Antenna connector (900 MHz only, antenna and cables purchased separately)

Code	Select: Sensor Mounting
A	Integral (direct connect of magnetic pick-up below, or customer-supplied – no Junction Box)
R	Remote Sensor (requires selection of a Junction Box below)

Accutech TM10

Wireless Turbine Meter Totalizer Field Unit

Model Code - TM10 (cont'd)

TBUATMTJ1N00A00NA represents a typical part number.

Code	Select: Sensor Pickup
00	None (Intrinsic Safety rating "Option J" is available for customer-supplied pick-ups meeting specifications)
01	Magnetic pick-up, Electronic Data Devices model 4.303 - for turbine meters with an I.D. >= 7/8 in.
02	Magnetic pick-up, Electronic Data Devices model 4.5050 - for turbine meters with an I.D. <= 3/4 in.

Code	Select: Sensor Union
N	None (customer-supplied)
C	Stainless Steel Union, for Integral Sensor Mounting only (Shipped Assembled)

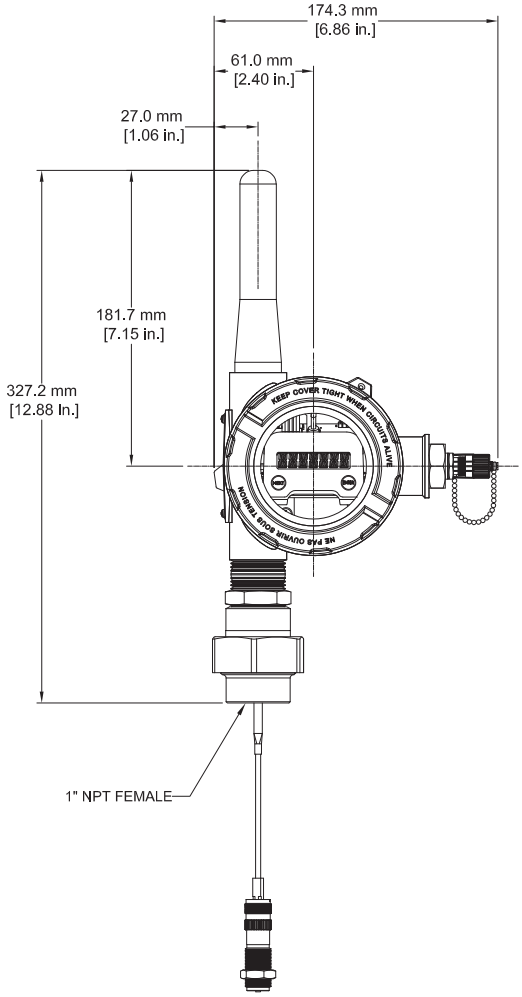
Code	Select: Junction Box
A	No Junction Box (exposed lead wires)
B	NEMA 4 - Aluminum Rear Entry, for Remote Sensor Mounting only
D	NEMA 4X - Stainless Steel Rear Entry, for Remote Sensor Mounting only

Accutech TM10

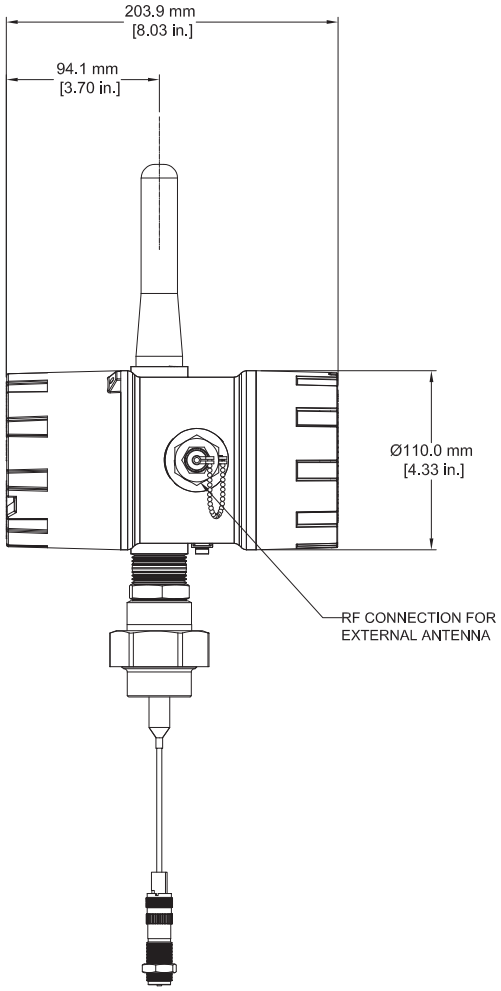
Wireless Turbine Meter Totalizer Field Unit

Dimensions - TM10

FRONT VIEW



SIDE VIEW



Note: This product is RoHS-compliant.

Accutech VC10

Wireless Valve Controller Field Unit

Specifications - VC10

General

Sensor Type	Gauge Pressure, discrete digital inputs (including one with counter function)
Control Type	3-way magnetic latching solenoid
Location	Field Unit (fully certified for use in Class 1, Div 1 environments)
Frequency Range	900 MHz license-free band

Functional

Gauge Pressure Sensor	
Accuracy	± 0.25% of full-scale (sensor card 0...125 PSI) pressure reading over rated temperature range
Stability	Combined zero and span stability: less than ± 0.1% of sensor URL per year at 21 °C (70 °F)
Gauge Pressure Ranges	250 PSI
Digital Inputs	
Inputs	Two contact closures. One input may be used in counter mode. (For installation in hazardous areas, the contacts must be simple devices with no energy storage capability).
Input Characteristics	• Max. switch impedance 1.0 kΩ • Input Isolation between Input 1 to Input 2 = 20 kΩ • The counter input supports a maximum input frequency of 5 Hz with a 50% duty cycle. The input must be in a state for 100 ms for the state to be recognized. Detection of rising or falling edge or both edges.
Control Output	
Valve Control	• 3-way magnetic latching solenoid valve (ASCO 3/2 Series Maglatch: HV428342001) • Remotely controlled by writing desired output state to base radio Modbus™ registers • Configurable default state and power-up state
Operating Ambient Environment	• -30...+60 °C (-22...+140 °F) (below -20 °C LCD visibility is reduced) • Humidity: 0...95%, non-condensing
Process Connection	1/2 in. MNPT
Power	• Self-contained power with integrated batteries • 4: 'D-cell' lithium batteries offer battery life up to ten years of service, depending on data rates and battery options.
Activations	Up to 50,000
Certifications	North America HAZLOC: • cCSAus (VC10 is certified for use in Canada and the US) • Intrinsically Safe: Exia IIC; AEx ia IIC • Class I, Div. 1, Groups A, B, C & D, T4 • Class I, Div. 2, Groups A, B, C & D, T4 EMC & Radio: • North America: FCC , IC

Accutech VC10

Wireless Valve Controller Field Unit

Model Code - VC10

TBUAVCTA4C00 represents a typical part number.

Model	Type
TBUAVC	Wireless Valve Controller Field Unit Field Unit

Code	Select: RF Module Type
T	902...928 MHz band (FCC / IC)

Code	Select: Certifications
	NEMA 4X – Div 1
A	CSA - see certification details on previous page

Code	Select: Housing & Battery Pack
4	NEMA 4X Aluminum Housing with 4 D-cells

Code	Select: Future Option
C	None

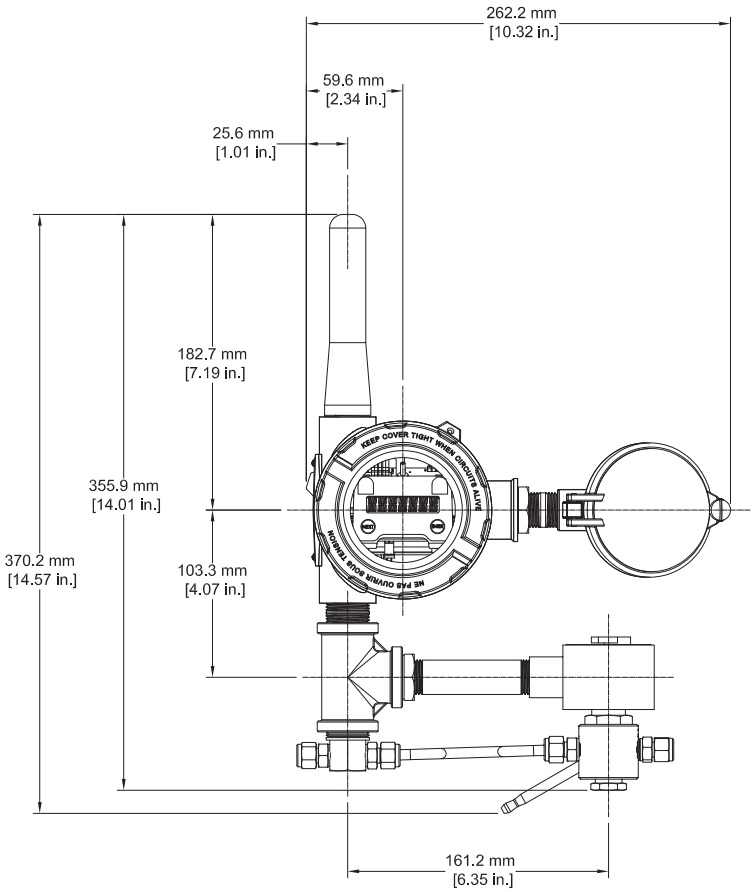
Code	Select: Future Option
00	None

Accutech VC10

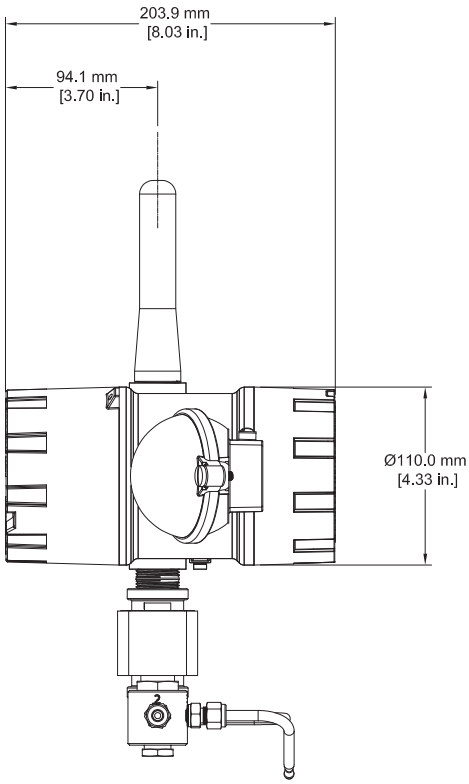
Wireless Valve Controller Field Unit

Dimensions - VC10

FRONT VIEW



SIDE VIEW



Footnote: [1] The VC10 is available in North America only.

Accutech 4AO, 8SW, 4AO-8SW

Analog & Switch Output Modules

Specifications - 4AO, 8SW, 4AO-8SW

General

Output Type	
4AO	4-Channel Analog Output
8SW	8-Point Switch Closure Output
4AO-8SW	Combination 4-Channel Analog Output & 8-Point Switch Closure Output Module

Functional

Analog Outputs

Number of Channels	4			
Type	Isolated Current Sink Outputs			
	Min.	**Typ.**	**Max.**	**Units**
Current Range	3.1		23.5	mA
Field Voltage	12	24	30	V DC
Isolation	• 2,200 Vrms between Field and Logic • 1000 Ω maximum @ 24 Vdc • 500 Ω maximum @ 12 Vdc			
Connector	14 AWG max.			

Switch Outputs

Number of Channels	8			
Type	Isolated Avalanche MOSFET Outputs			
	Min.	**Typ.**	**Max.**	**Units**
Current	0	N/A	1	Adc
Voltage	6	24	30	Vdc
AC Frequency	N/A	N/A	N/A	
Resistance		9	15	mΩ
Connector	14 AWG max.			

Operating Ambient Environment	• -40...85 °C (-40...185 °F) operating • -40...140 °C (-40...284 °F) storage • Ordinary locations only
Physical Characteristics	• DIN rail-mounted • Dimensions: See drawing below
Accuracy	• ± 0.1% at reference conditions • Additional ± 0.1% per 10 °C (18 °F) deviation from reference conditions
Fault (Fail-Safe) Condition	• Each output goes into fail-safe in the event of a sensor failure, missing sensor, no RF condition, RS-485 link down or field unit powered down condition. • The output module displays a fault indication if any enabled output goes into a fail-safe condition.
User-Programmable Options	• Range (lower value range and upper value range) for each analog output • Trim each analog output • Enable or disable failsafe for each output • Failsafe output user selectable to 3.6 mA, 23 mA, or user-specified value (analog); failsafe switch closure output is open condition only • Select RS-485 address with Accutech Manager
Input Power	• 10...30 Vdc • 24 Vdc @ 13.2 mA typical
Remote Configuration Interface	Accutech Manager, Windows®-based GUI software, providing network-wide monitoring and performance-management features and field unit configuration capabilities.

Accutech 4AO, 8SW, 4AO-8SW

Analog & Switch Output Modules

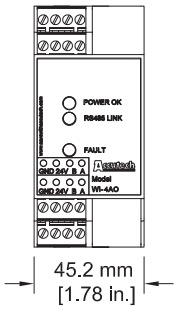
Model Code - 4AO, 8SW, 4AO-8SW

Code	Select: Module Type
TBUM297526	4AO: 4-Channel Analog Output Module
TBUM297527	8SW: 8-Point Switch Closure Output Module
TBUM297528	4AO-8SW: Combination 4-Channel Analog & 8-Point Switch Closure Output Module

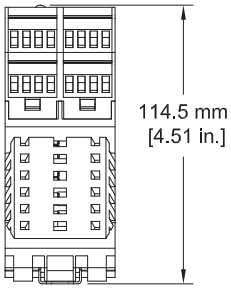
Dimensions - 4AO, 8SW, 4AO-8SW

MODULE 4AO

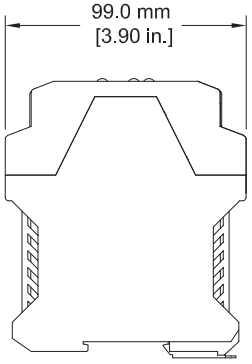
TOP VIEW



FRONT VIEW

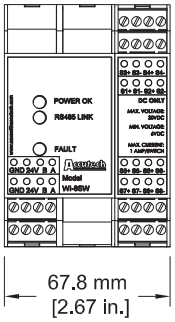


SIDE VIEW

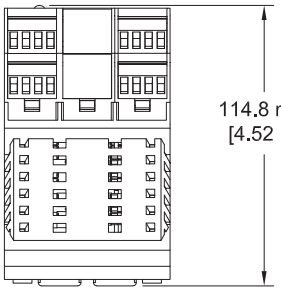


MODULE 8SW

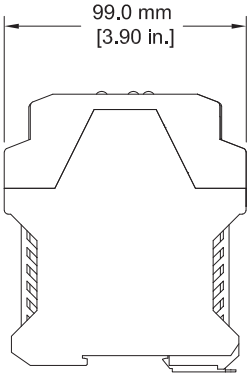
TOP VIEW



FRONT VIEW



SIDE VIEW



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